S93 .D12
Reid 115421

DERKSEN

ELKHORN/COOLIDGE INTERPRETIVE ANALYSIS

WISE RIVER RANGER DISTRICT

BEAVERHEAD NATIONAL FOREST

By: Lee D. Derksen

ELKHORN/COOLIDGE INTERPRETIVE ANALYSIS

WISE RIVER RANGER DISTRICT

BEAVERHEAD NATIONAL FOREST

By: Lee D. Derksen
Recreation Forester
USDA Forest Service
Beaverhead N.F.
420 Barrett St.
Dillon, MT 59725
(406) 683-3900

Clemson Class of 1991

Final Copy: 6/3/93

This paper was prepared as a student project in partial fulfillment of the requirements of the Professional Development for Outdoor Recreation Management Program at Clemson University. It in no way reflects USDA Forest Service Policy nor are the opinions expressed those of anyone other than the author.

ABSTRACT

AUTHOR: Lee D. Derksen
Recreation Forester
USDA Forest Service
Beaverhead National Forest
420 Barrett St.
Dillon, MT 59725
(406) 683-3900

TITLE: Elkhorn/Coolidge Interpretive Analysis

ABSTRACT: The Elkhorn Mine, the abandoned Elkhorn Mill and ghost town of Coolidge, Montana are a valuable part of Montana's early mining history. On this site, late 19th and early 20th century investors made enormous capital investments to develop the silver mining potential. Despite extensive development, the operation was never profitable and was eventually abandoned.

Currently there is public visitation of the Elkhorn/Coolidge historic mining district, but no facilities are in place for protecting or interpreting it. This analysis develops a strategy for providing accessible interpretation of the national register historic district. Interpretive themes and goals are established. An accessible trail, interpretive signs, interpretive brochure, and parking area facilities are planned.

KEYWORDS: Historic Site, Interpretation, Interpretive Trail

EXECUTIVE SUMMARY

The purpose of the Elkhorn/Coolidge Interpretive Analysis is to determine an overall plan and direction for interpreting the historic Elkhorn/Coolidge mining district. In so doing, it helps to coordinate project implementation and insure compatible facilities development.

The ghost town of Coolidge, Montana; the Elkhorn Mining District and Elkhorn Mill are part of Montana's early settlement history. They are located in a remote part of the Pioneer Mountains south of Wise River, Montana. Elkhorn District development was concurrent with the late 1800's to early 1900's mineral rush in the west. Although commercial silver deposits were present, the Elkhorn mines proved to be a financial disaster for the mostly eastern investors. Much of the borrowed development capital was spent on a railroad, power line and large capacity mill. The limited funds remaining were only enough to partially develop the mines, consequently they never supplied enough ore to operate the mill above 1/2 capacity. Owner/manager William R. Allen, a former lieutenant governor of Montana, struggled to keep the operation solvent for many years. The mill operated sporadically until Allen's death in 1953. The town of Coolidge was abandoned with the mill closing.

The huge scale of the mill, the unusually large investment made, plus the large size and completeness of the town make this a unique cultural resource. The beautiful setting in the lodgepole pine forests of a glaciated valley at the base of rugged Saddleback Mountain adds significantly to the experience.

Elkhorn/Coolidge is just 4.5 miles from the paved Pioneer Mountains Scenic Byway but the access road to the site is poor. As a result, no effort has been made to promote Elkhorn/Coolidge as a tourist attraction. Currently the area is a popular destination with local, weekend travelers and history buffs who know of the town's existence. A low standard road provides access to a wide clearing that serves as a primitive parking lot. There is currently no developed trail and only very limited interpretive features.

The historic buildings are numerous, range in size from small to one that covered more than an acre, and are in various states of deterioration. Vandalism, building salvage and snow have damaged many of the buildings. A few original structures have roofs in tact and are still resisting major deterioration.

The Elkhorn mines are unpatented claims on National Forest lands. In the years since Allen owned the claims they have been in various private ownerships. The current owners have discussed building salvage on several occasions but have actually salvaged only a very small amount. The most likely scenario is that status quo will be maintained until salvage economics change or the property passes to other ownership. The owners have expressed concern about liability and theft if the general public is allowed to use the site. Their preference would be to exclude the public from the mill and mine but they are less concerned about public access to the town of Coolidge. Given this uncertainty about the mines and mill, major capital investment should not be made on the west side of the creek. The mines and mill can be interpreted from across the creek in an area that is unlikely to be impacted regardless of their future.

The historic district is not only a popular summer destination, but it receives some use in winter as well. Providing interpretation for over-snow users, primarily snowmobilers, is a consideration.

The road which provides access to Coolidge is scheduled for upgrade in 1994. While the final decision has not been reached, it is likely that a single lane gravel road with intervisible turnouts will be re-constructed from the existing low standard road. The improved access will be adequate for passenger cars and motor homes; less so for towing units.

The audience was analyzed to determine user preferences. Use is currently low because of the poor access but can be expected to increase 5 to 10 fold when access is improved. The effectiveness of our promotional effort will, in part, determine how many out-of-state tourists traveling Interstate 15 make the short side trip to

visit the Pioneer Mtns. Scenic Byway and Elkhorn/Coolidge. Given the level of investment anticipated, it would be reasonable to strive for five thousand or more visitors per year.

The interpretive theme that will be stressed for the Elkhorn/Coolidge area is: Early 1900's mineral development was a high risk endeavor which often ended in failure.

Interpretive goals include:

1) Reduce visitor vandalism and pilfering of the site by improving the understanding and appreciation for this unique cultural resource.
2) Provide a convenient way for visitors of all physical abilities to access the site.
3) Develop visitor understanding of how the 1872 Mining Law allowed such development to occur on public lands.
4) Develop visitor understanding of the enormity of the Elkhorn/Coolidge development task, given the remote location.
5) Develop visitor understanding of the enormity of the risk taken by the early mineral developers.
6) Develop visitor understanding of Elkhorn/Coolidge development in the historic context of the western mineral rush.
7) Pique visitor curiosity about the mining and milling processes.
8) Pique visitor curiosity to learn more about the people who lived and worked at Elkhorn/Coolidge.

Interpretive media will be a combination of: an interpretive trail, interpretive tours conducted with volunteer help, number posts and brochure to interpret the features, and on site signing with fiberglass embedded signs.

Interpretive facilities include a historic district entry sign, 15 vehicle parking lot, directional signs, a simple host unit, 2 to 4 day use tables, 1 unisex toilet, a bulletin board, an embedded fiberglass trailhead sign, a fully accessible trail, number posts at each building/feature and embedded fiberglass interpretive signs at 8 points along the trail. Signs will be mounted to allow both summer and winter use. All new facilities will be barrier free. New facilities added to the site will be constructed of materials and be of colors that are compatible with the site. Weathered grays and browns will predominate. Architectural style will reflect that prevalent during the period Elkhorn/Coolidge was in use.

A brochure describing the Elkhorn/Coolidge area will be developed. A map of the historic district will be depicted on the reverse side of the brochure. Adjacent to the map will be a key to the structure identities.

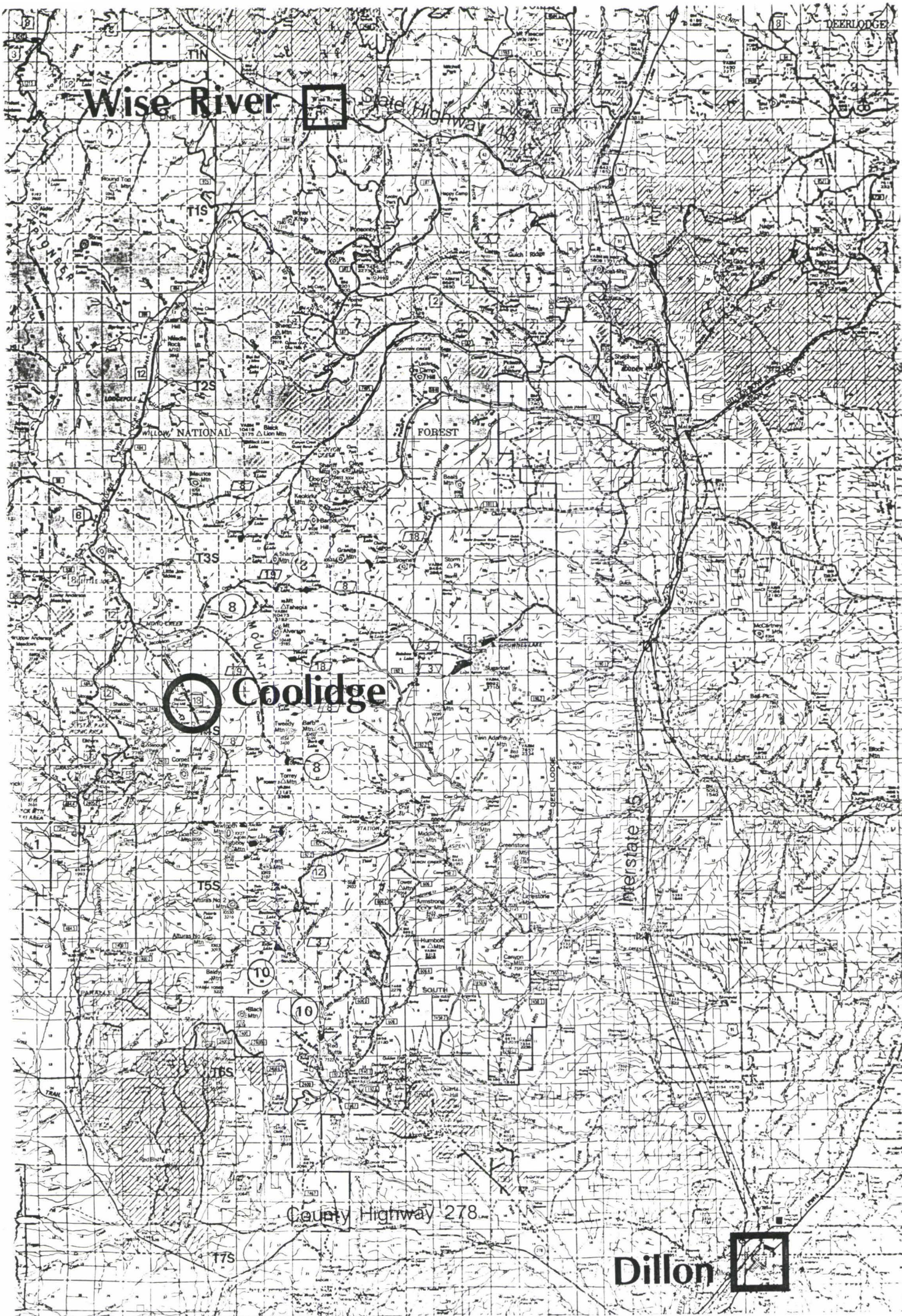
Depending on funding, one or more of the structures of Coolidge will be stabilized to slow further deterioration.

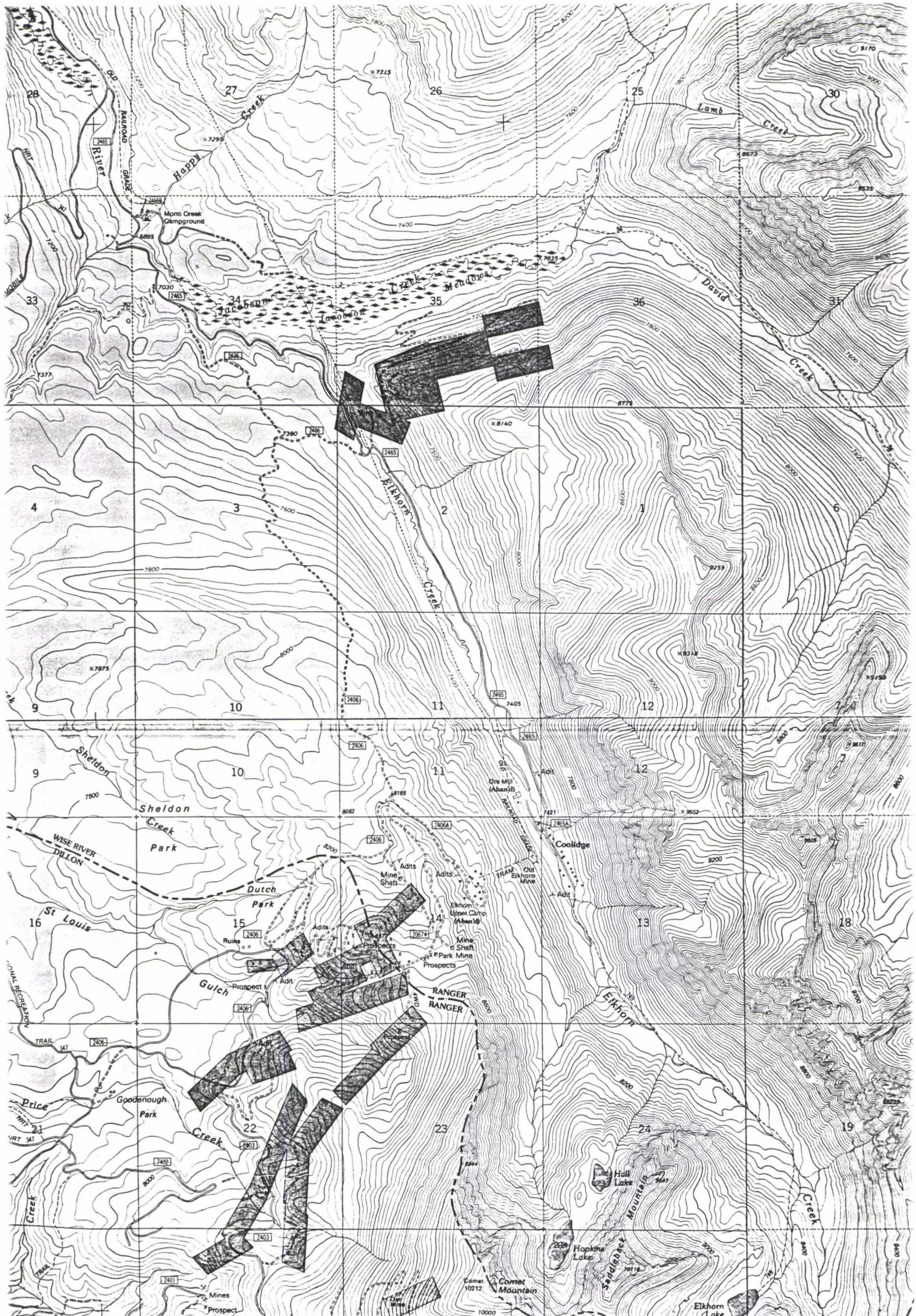
Volunteers will be extremely important to completing the Elkhorn/Coolidge project. Volunteer hosts, volunteers who have information about Elkhorn/Coolidge history, volunteers who agree to let historic photographs be used, a Mining Engineer volunteer who detailed the milling processes, and volunteers to help with building stabilization will be among those sought for help.

An implementation sequence and a list of subsequent steps is detailed in the document.

TABLE OF CONTENTS

Vicinity Map	**Page 1**
Contour Map	**Page 2**
Photo, Elkhorn Mill	**Page 3**
I. Introduction	**Page 4**
II. Methodology	**Page 5**
III. Management Concerns	**Page 5**
IV. Audience Analysis	**Page 7**
Photo, Frank Tyro House	**Page 10**
V. Interpretive Themes and Goals	**Page 11**
VI. Interpretive Media	**Page 11**
VII. Interpretive Facilities	**Page 14**
VIII. Costs and Funding	**Page 17**
IX. Implementation Sequence	**Page 17**
Photo, Frank Tyro Sauna	**Page 18**
X. Subsequent Steps	**Page 19**
XI. Literature Cited	**Page 20**
XII. List of Preparers	**Page 20**
XIII. Appendices	
A. Elkhorn/Coolidge Interpretive Facilities Map	**Page 21**
B. Elkhorn/Coolidge Interpretive Sign Concept	**Page 22**
C. Cost Analysis	**Page 23**
D. Cultural Resource Inventory and Evaluation for the Elkhorn/Coolidge Historic District	**Page 25**


Wise River
State Highway 43
Coolidge
Interstate 15
County Highway 278
Dillon
FOREST
T1N
T1S
T2S
T3S
T5S
T6S
T7S
DEERLODGE


Happy Creek
Mono Creek Campground
Jacobson Meadow
Jacobson Lake
Lamb Creek
David Creek
Elkhorn Creek
Sheldon Creek
Sheldon Park
WISE RIVER DILLON
Dutch Park
St Louis Gulch
Goodenough Park
Price Creek
RANGER
Ore Mill (Abandd)
Old Elkhorn Mine
Coolidge
Elkhorn
Hall Lake
Hopkins Lake
Saddleback Mountain
Comet Mountain
Elkhorn Lake
Mines
Prospect
Adits
Ruins
TRAIL
RAILROAD GRADE
OLD

I. Introduction

"Interpretation aims at giving people new understanding, new insights, new enthusiasms, new interests...A good interpreter is sort of a Pied Piper, leading people easily into new and fascinating worlds that their senses never really penetrated before." (Sharp,1976).

"The first or primary objective of interpretation is to assist the visitor in developing a keener awareness, appreciation, and understanding of the area he or she is visiting. Interpretation should help to make the visit a rich and enjoyable experience. The second objective of interpretation is to accomplish management goals...First, interpretation can encourage thoughtful use of the recreation resource...Second, interpretation can be used to minimize human impact on the resource by guiding people away from fragile or overused areas." (Sharp,1976).

The purpose of this interpretive analysis is to determine an overall plan and direction for interpreting the historic Elkhorn/Coolidge mining district. In so doing it will help coordinate project implementation and insure compatible facilities development.

History

The ghost town of Coolidge, Montana; the Elkhorn Mining District and Elkhorn Mill are part of Montana's early settlement history. They are located in a remote part of the Pioneer Mountains south of Wise River, Montana (see vicinity map). Elkhorn District development was concurrent with the late 1800's to early 1900's mineral rush in the west. Although commercial silver deposits were present, the Elkhorn mines proved to be a financial disaster for the mostly eastern investors. Much of the borrowed development capital was spent on a railroad, power line and large capacity mill. The limited funds remaining were only enough to partially develop the mines, consequently they never supplied enough ore to operate the mill above 1/2 capacity. Owner/manager William R. Allen, a former lieutenant governor of Montana, struggled to keep the operation solvent for many years. The mill operated sporadically until Allen's death in 1953. The town of Coolidge was abandoned with the mill closing. Appendix D gives a more complete history of the area.

The huge scale of the mill, the unusually large investment made in the mill, railroad and power line, plus the large size and completeness of the town of Coolidge make this a unique cultural resource. The beautiful setting in the lodgepole pine forests of a glaciated valley at the base of rugged Saddleback Mountain adds significantly to the experience.

Current Situation

Elkhorn/Coolidge is just 4.5 miles from the paved Pioneer Mountains Scenic Byway but the access road to the site is poor. As a result, no effort has been made to promote Elkhorn/Coolidge as a tourist attraction. Currently the area is a popular destination with local weekend travelers and history buffs who know of the town's existence. A low standard road provides access to a wide clearing that serves as a primitive parking lot. Visitors can walk the gated road 1/2 mile to the town, mill and mines. A simple registration box on a post serves as the only interpretation. The interpretation is limited to a typed excerpt from a book about Elkhorn/ Coolidge, *One Man's Dream*. The only other facilities are a few simple road signs directing visitors to "Elkhorn/Coolidge."

The historic buildings are in various states of deterioration. The mill building is by far the largest structure on the site, originally covering more than an acre of land. Perhaps a third of the original mill building has been torn down for salvage of timbers. Another third is in jeopardy because the roof has been severely damaged. The remaining third of the building still appears to be fairly stable. Most of the outbuildings associated with the mill and the railroad have either been salvaged or severely damaged by snow and only portions of some of them still stand; many are entirely flattened. Salvaged lumber from some old buildings was used recently

ELKHORN MINE/COOLIDGE TOWNSITE

KEY

S-n = STRUCTURE & NUMBER

F-n = FEATURE & NUMBER

COLLAPSED STRUCTURE

INTACT STRUCTURE

SCALE

0 100 200 300 400 500

100ft./1 inch

N

DISTRICT BOUNDARIES

ELKHORN MILL

ELKHORN MINE

TOWNSITE OF COOLIDGE

ELKHORN DITCH

ELKHORN CREEK

DITCH

CROSS DITCH

to construct two small shacks that the current mine owners use. While these shacks are out of character with the rest of the buildings, they are located in an out of the way place where they do not significantly detract from the site. In Coolidge, two original structures have roofs in tact and are still resisting major deterioration although some vandalism of the interiors has occurred. Most of the rest of the town has had severe roof damage from snow and the structures are either flat on the ground or in various stages of falling down. Nearly every privy in town has been overturned and excavated by bottle hunters.

Recreation Opportunity Spectrum class for the area is Roaded Natural.

II. Methodology

This analysis was developed using both interdisciplinary and multidisciplinary approaches. An interdisciplinary team (ID team, See XII, List of Preparers) was convened in November of 1992 to discuss general planning approaches, interpretation approaches, and sources of further information. The ID team visited the site and agreed to a preliminary trail location, trail surfacing, ancillary facilities, interpretive media and key features to interpret. Ancillary facilities were further refined in discussions with ID team members Dale McKnight and Anita DeZort.

Management concerns were discussed at the ID team meeting and subsequently in greater detail with ID team members Ed Levert and Dale McKnight.

Interpretive themes are a product of Elkhorn/Coolidge historic context ideas discussed with ID team member Mike Ryan. Audience analysis was done on a multidisciplinary basis by the author consulting source documents listed in the literature cited. He also consulted ID team members Mike Ryan and Paul Olsen for specific information about the local audience.

The implementation sequence was developed over time and first appeared on the district's capital investment program. It was refined in consultation with Ed Levert and Dale McKnight.

This document was reviewed and refined by the ID team members and USFS Northern Region Interpreter Keith Thurlkill.

Photographs were provided by Mike Ryan and Darrel Kruzen.

III. Management Concerns

Ownership

The Elkhorn mines are unpatened claims on National Forest lands. In addition to the mines, the current parking area, the Elkhorn Mill and most of the town of Coolidge are located on the claims. In the years since Allen owned the claims they have been in various private ownerships. In the late 1970's the claim owners salvaged building materials from the mill. They dismantled and removed approximately 1/3 of the original building. On another part of the building, they removed some of the huge timbers, weakening the structure and causing part of it to collapse and progressively deteriorate since then.

The current owners, Irving and Joseph Gray, have discussed salvage on several occasions but have actually salvaged only a very small amount. The Grays have expressed concern about liability and theft if the general public is allowed to use the site. Their preference would be to exclude the public from the mill and mine but they are less concerned about public access to the town of Coolidge.

Previous owners of the claims offered to sell all improvements to the Forest Service but the transaction was not completed and the Grays purchased the claims. Grays have also offered to sell the improvements to the Forest Service but at greatly inflated prices. The Office of General Council has said they will not contest the

Gray's ownership of the improvements at Elkhorn/Coolidge. Prospects for purchasing the improvements do not appear good at this time. It would be desirable to reach agreement with the claimants about any proposed Forest Service development. At a minimum, Forest Service development should not interfere with the claimants operations.

Although the Grays have threatened salvage, it does not appear likely that such an operation would be profitable at this time. However, if the Grays do begin a serious salvage operation they would not only degrade some of the most significant cultural resources, but they would probably use the existing access road which currently provides the only public access. There is also some potential that the mines could once again reopen for ore production. However, the most likely scenario is that status quo will be maintained until salvage economics change or the property passes to other ownership.

Given this uncertainty about the mines and mill, major capital investment should not be made on the west side of the creek. The mines and mill can be interpreted from across the creek in an area that is unlikely to be impacted regardless of their future. Interpretation could be done in a way that would be meaningful even if the mines and mill were significantly changed.

Liability

If new Forest Service development occurs at Elkhorn/Coolidge, the mining claimants could be partially liable for public safety on the claims. However they would only be liable for hazardous situations they create through gross negligence, the same as if no Forest Service development were planned. Most of the claimants liability could be avoided by filing and complying with thorough operating plans. The Forest Service would be liable for any new hazards created by Forest Service development on the claims. Since there is an existing hazard in the dilapidated buildings, the Forest Service might also be liable for encouraging public use if the agency fails to warn visitors of the hazard. Signs warning visitors to stay on developed trails and out of the buildings and a similar message in brochures would help reduce liability. Warnings should site examples of hazards but avoid trying to develop a complete list. Hazard examples include: scattered boards with nails, structures too weak to support human traffic, structures which may collapse at any time, and toxic tailings and runoff.

AMRB Cleanup

The State of Montana Department of Lands, Abandoned Mines Reclamation Bureau (AMRB) conducted a study of pollution from the Elkhorn Mines and the mill tailings in the early '80s. They concluded that Elkhorn Creek could benefit from certain clean-up efforts including moving and stabilizing some of the tailings, closing the adit and diverting adit discharge water into settling ponds. The project has been given a fairly low priority by the state, apparently because the water quality impacts are less severe than at other sites. If and when any such work occurs, it should be done in a way that recognizes the unique cultural resources of the site and affords them maximum protection.

Winter Use

The historic district is not only a popular summer destination, but it receives some use in winter as well. Providing interpretation for over-snow users, primarily snowmobilers, is a consideration. In the past, warming fires have occasionally damaged parts of the site, both by leaving charcoal in inappropriate places and because boards from buildings may have been used for fuel. Some winter use trash has also been left on the site. There is a need for some education to reduce these impacts.

Improved Access

The Lower Elkhorn Mine Road #2465 which provides access to Coolidge is scheduled for upgrade in 1994. While the final decision has not been reached, it is likely that a single lane gravel road with intervisible turnouts will be re-constructed from the existing low standard road. The improved access will be adequate for

passenger cars and motor homes; less so for towing units. Road upgrade decisions may affect the parking lot design, both from the standpoint of size and design vehicle.

Preserving the History

Elkhorn/Coolidge has a fascinating history. Some of it is spelled out in the *Cultural Resource Inventory and Evaluation for the Elkhorn/Coolidge Historic District* (Appendix D). Additional information is contained in *One Man's Dream*. But the buildings themselves are deteriorating from natural forces as well as vandalism and salvage. Preserving the on site location of buildings and features thru some permanent monumenting system is important. Maintaining the photographic record of the features is also important.

IV. Audience Analysis

Interstate Highway 15 bisects the Beaverhead Forest and is the major north-south access into this portion of the state, as well as points north and south of Montana. It is also the lesser used of the two main routes accessing Yellowstone Park adjacent to the Beaverhead's eastern boundary, and Glacier National Park to the north. From I-15 visitors can travel State Highway 43 to Wise River or Beaverhead County Road 278 to access the Pioneer Mountains Scenic Byway, an attractive side trip from I-15. The Lower Elkhorn Mine Road #2465 is a low standard side road junctioning with the Scenic Byway that provides the only access to Elkhorn/ Coolidge.

Current Use

We have no traffic data whatsoever for Lower Elkhorn Mine Road #2465. However, we do have the registration box at Coolidge and from it can make estimates of the number of visitors. Log entries have been as follows:

1989	459 entries.
1990	476 entries.
1991	272 entries (box vandalized)
1992	460 entries.

The log entries often allude to family visits. From this the district recreation specialist deduces that at least 1000 to 1200 visitors per year have been using the site in its current unimproved status.

We are aware that we have winter use of Elkhorn/Coolidge but have even less information on those visitors and their numbers. Our information is limited to observations that some visitors have made the trip on snowmobiles every winter in recent years. We assume that at least some of them visit the area to experience the history in a winter setting.

Projected Use

In just one year following paving of the scenic byway, use of it increased 100% with only very limited promotion. When the south end of the byway construction is complete in 1997, all new facilities are installed and serious promotional efforts made, we will see much greater increases in use. Elkhorn/Coolidge is likely to receive significant visitor increases as Scenic Byway use increases. This will be particularly true if the Lower Elkhorn Mine Road #2465 is upgraded from its current low standard.

With proper promotion Elkhorn/Coolidge should show a significant increase in first-time visitors. The potential for local first time visitors is very high as the site has remained relatively inaccessible and has not been promoted at all. As access improves, local school classes are likely to use the site as an education opportunity.

The effectiveness of our promotional effort will, in part, determine how many out-of-state tourists traveling Interstate 15 make the short side trip to visit the byway and Elkhorn/Coolidge. With no similar interpretive sites currently on the Forest, there is no way to reliably estimate the actual number of visitors. A reasonable assumption would be several thousand each year.

The potential for repeat visitors to this interpretive site would be almost entirely from local and regional visitors. The local forest users will be attracted to an interesting site, in an attractive outdoor setting, which can be visited for picnics and day outings repeatedly. The site would not seem to be highly attractive to out-of-state tourists on a repeat basis.

Use Goals

Given the level of investment anticipated, it would be reasonable to strive for five thousand or more visitors per year. Installing a trail counter would help establish whether goals are being met or whether more effort should be devoted to attracting visitors.

Visitor Profile

Following is a characterization of the average Pioneer Mountains Scenic Byway visitor quoted from the Draft Pioneer Mountains Scenic Byway Interpretive Plan by Sjostrom. Many or most of the visitors to Elkhorn/ Coolidge will be people traveling the Scenic Byway for other purposes as well. Therefore the profiles should hold true for Elkhorn/Coolidge as well as the Scenic Byway. Despite the usefulness of average visitor profiles, site designers should remember that any such composite includes various visitor segments. For example, the scenic byway visitors include school aged children; elderly, retired people; people with disabilities and single parent families to name just a few segments.

Resident Visitors

"We can expect the following "average" byway visitor from the local area: Middle age to older professional person (or retiree) traveling with family, including children and often elderly members or friends (average group size is 3 adults with 2 children). Over half the resident users are high school graduates. They travel with a trailer or large R.V. and favor developed campsites. They favor public campgrounds. His or her trip will last one to three days, and he or she considers the drive to the recreation site an important part of the recreational experience - perhaps the chief recreational experience. The average visitor's activities will most often include pleasure driving and sightseeing, picnicking, day hiking, fishing, and other unstrenuous low-risk recreational pursuits. The visitor will be relatively affluent (79% <$40M/Yr) or at least able to purchase the recreation equipment to support this kind of experience."(Ryan,1992)

Non-Resident Visitors

"Non-resident visitors will be middle aged (with a higher percentage of older retirees than resident groups, 20% over 65 years old), well educated (30% will have a college degree or some college study), and likely professional or skilled technicians or tradesmen (approximate household income 51% >$40M/Yr). Most will travel with family or friends (average group size of 3). More often than not, they won't travel with children. They tend to favor developed campsites and travel farther than residents to find them. They will stay an average of four nights in Montana. Non-residents come from Idaho, Washington or California - with somewhat fewer from other northwest states and west-central Canada. Most stay in public campgrounds for the convenience and because they cost less. Most often they spend their time sightseeing. Eight out of ten will consider this an extremely important recreational opportunity. They will also picnic and day hike. They will also want to view wildlife, and will want to know about area history more than resident travelers."(Ryan, 1992)

Visitor Segments

It would be better to have detailed information on the characteristics of various visitor segments, particularly those segments willing to travel to Elkhorn/Coolidge. Unfortunately our only information on this segment comes from the visitor log. It is not detailed enough to tell us much about them. In addition, it is likely that the characteristics of that segment will change as the access improves. We speculate that current Elkhorn/Coolidge visitors tend to be more physically able, tend to be younger and tend to be more from the local area than the typical scenic byway visitor. Two reasons account for the local visitor predominance theory: the need for a high clearance vehicle for access and the minimal promotion of Elkhorn/Coolidge as an attraction. We also speculate that these differences will be greatly reduced as road and trail access to and information about Elkhorn/Coolidge improves. Assuming that will be the case, it would be more prudent to design Elkhorn/Coolidge facilities for the typical byway visitor than the current Elkhorn/Coolidge visitor. Better visitor information should be collected following establishment of Elkhorn/Coolidge facilities. A volunteer host could greatly assist this effort.

Visitor Preferences

The Good Sam Club provided the Forest Service with a survey of their membership. Two of the things Good Sam members wanted to see more often on the National Forest System were interpretive experiences and self-guided walks (Ryan, 1989).

Studies from Montana and South Dakota briefly discussed the recreational opportunities people are seeking. The Montana study found that people perceived the State deficient in historical sites and museums, the very thing most sightseers were highly interested in visiting. The sightseeing, or auto touring, recreationist remains the largest single group of visitors using the National Forest System. A South Dakota study found that people visiting historic sites stayed in the State an average of one day longer just to visit the site (Ryan, 1989). We could probably expect people to take a side trip to Elkhorn/Coolidge, even if it meant stopping overnight in Dillon or Butte.

At an even more subjective level, District recreation specialists were polled concerning the type of people visiting the Forest, and what their interest in interpretive facilities might be. The Beaverhead gets a significant number of retirees and families with small children from the local area. They seem to be seeking recreational opportunities such as sightseeing, picnicking, and fishing. The upper Wise River is one of the favored areas for this type of activity. An interpretive opportunity at Elkhorn/Coolidge would probably be incorporated in many of these visitor's itinerary.

Insert pictures here

V. Interpretive Themes and Goals

Interpretive Theme

Interpretation should be more than simply conveying disjointed facts about a site. An interpretive theme provides unity for site interpretation. When all of the elements of interpretation follow a common theme, they work together to reveal the meaning of the site.

An interpretive theme was established for the nearby Pioneer Mountains Scenic Byway: "Discover the West the Way It Used To Be" (Sjostrom, 1992). The theme means that the scenic byway will be interpreted in terms of the historic and prehistoric human use of the area. A historic site like Elkhorn/Coolidge fits well under this umbrella theme, however, a more specific theme for the site should be established to help reveal its meaning.

The following themes were established for the Elkhorn/Coolidge area:

1) Elkhorn/Coolidge was a cog in the wheel of the west's great mineral rush.

2) Mining can be a transient activity even when successful. When it is unsuccessful it can disappear practically overnight.

3) Early 1900's mineral development was a high risk endeavor which often ended in failure.

Interpretive themes should focus on what is unusual or unique about the area. The Elkhorn/Coolidge area seems unique in that it was such a large scale unsuccessful project. Theme number three brings this out the best and will be emphasized for the site.

Interpretive Goals

1) Reduce visitor vandalism and pilfering of the site by improving the understanding and appreciation for this unique cultural resource.

2) Provide a convenient way for visitors of all physical abilities to access the site.

3) Develop visitor understanding of how the 1872 Mining Law allowed such development to occur on public lands.

4) Develop visitor understanding of the enormity of the Elkhorn/Coolidge development task, given the remote location.

5) Develop visitor understanding of the enormity of the risk taken by the early mineral developers.

6) Develop visitor understanding of Elkhorn/Coolidge development in the historic context of the western mineral rush.

7) Pique visitor curiosity about the mining and milling processes.

8) Pique visitor curiosity to learn more about the people who lived and worked at Elkhorn/Coolidge.

VI. Interpretive Media

The district has decided to access Elkhorn/Coolidge via an interpretive trail. An interpretive trail is the best interpretive approach for several reasons:

Motorized access would increase the potential for people to pilfer weather stained boards or vandalize the site.

Cultural values would be severely compromised in developing auto access to the site.

Vehicles in the vicinity of the area would detract from experiencing the period and the "ghost town feeling".

Cost is a major consideration affecting the choice of interpretive media which will support the interpretive trail. There is no doubt that paid, professional staff leading a live interpretive tour could provide the most informative public service (Tilden). There is also no doubt that such an ambitious proposal could not be funded with existing or projected maintenance budgets for Elkhorn/Coolidge.

Alternatively, interpretive tours could be conducted with volunteer help. Such help is likely to be available on an intermittent basis at best and should not be relied on as the soul source of interpretation. However, volunteer help could be used to augment basic on site interpretive media. To give us that flexibility, host facilities will be provided at the visitor parking lot. When a host is available, guided tours can be conducted for visitors who want them. Regularly scheduled tours would help visitors know when to arrive.

Another way to utilize a volunteer host would be to place greater reliance on other media to do the interpretation and have the host available to simply answer questions. In either case the host is extremely valuable from the standpoint of reducing vandalism and pilfering. The personal contact has a way of increasing visitor appreciation for the site and cooperation in protecting it.

For visitors who prefer to "do their own thing" and for times when a host is not available alternate media should be available to provide interpretation. The Elkhorn/Coolidge site covers more than 90 acres with various buildings distributed over the entire area. The sheer number of buildings and their wide distribution would make for a costly and cluttered signing arrangement if each building had its own information sign. The on-site media that seems most suited to this distribution of features is the number post and brochure. Yet Trapp et al suggest that this media is a poor one because few people enjoy reading a brochure while walking about.

Despite Trapp's warning number post and brochure will be used as one of the key media for Elkhorn/Coolidge. Personal discussion with the Northern Region interpreter convinced us that the media is valid in this situation. For a complex site like Elkhorn/Coolidge this media gives a way to answer questions that are sure to arise without the clutter of excessive signs. It also gives visitors a brochure to take home with them, refer to and use as a rememberance of the experience. References for additional information could be easily included in the brochure for visitors who wish to do more reading. A simple black and white brochure with photos, map and descriptions of buildings and features will be developed.

On site signing will also be provided to augment information provided by the number post and brochure media and as a concession to the notion that the latter is not a useful media. Fiberglass embedded signs are the best choice for interpreting the complicated features of the mill and mines. For the sake of uniformity this material will be used for all of the large signs on the site even though some of the signs will be simple enough that other materials could be used. The following signs will be developed:

Parking Lot Sign - This sign would have a brief introduction to what the area is: an historic abandoned mining camp and town. It would also have a description of the trail, interpretive features and difficulty level and directions to the toilet. It would incorporate a brochure box and a vicinity map.

Railroad - The railroad sign would be located at the site of the first railroad bridge (collapsed). It would have a description of the narrow gauge railroad from Divide to Coolidge, constructed to haul ore and supplies, and abandoned with the failure of the venture.

First View of Elkhorn Mill with Saddleback Mountain in background - This sign will tell the Elkhorn/ Coolidge story: overview of Elkhorn/Coolidge history including historic context with the mineral rush, how Allen came in possession, creation of the Boston-Montana Company, the development, the failure and abandonment. This sign should be written as concisely as possible because the message could easily get too long and boring with this much subject material.

Mill Workings - Located on the east side of the creek just opposite the mill, this sign would be an artist's cut away depiction of the mill interior with a description of various processes and equipment used to treat ore.

Mine Workings - This sign would be located just opposite the lower mine opening in the town of Coolidge. It would be an artwork schematic showing ore mining and transport to the mill including the gravity tram and the miniature ore transport railroad. It would include a discussion of how the 1872 Mining Law was established to encourage mineral development, allows claims to be filed on National Forest Land free of charge and allows development necessary to remove the ore. The sign would explain that the claims are still valid though only periodically active now. It would also explain that current reclamation standards are much higher than at the time Elkhorn was developed.

Site Layout Map - This sign would be located where the interpretive trail enters the town of Coolidge. It would be a map of Elkhorn/Coolidge showing locations and labels of all features.

Allen's House - In front of Allen's house would be a sign with a photo of Allen and description of how he developed the mines, mill and town, and a description of how the venture ended in failure for Allen and the investors.

Company Store - Near the company store a sign would describe the living conditions of the average miner and mill worker who lived in Coolidge and collectively made the operation run. It would also describe the facilities Coolidge offered them: the small, rude wall tents and cabins; boarding houses; school; company store; post office and stills in the hills.

A few additional signs could be added to this list but the total number should be kept small. One reason for adding another sign or two would be to split out topics from signs that become too lengthy in the design phase. For example, if the first view sign would be too busy with the content described above, part of the message could be put on a second sign located farther along the trail.

This mix of interpretive media may seem too much at first glance. Some may suggest choosing one medium and staying with it to present a more organized, less cluttered appearance. However, there is a logic to the choices. The on site interpretive signs are purposely limited to a few major signs described above. This will reduce distractions and cluttering of the site. These signs form the backbone of Elkhorn/Coolidge interpretation, available at all times of year and for the most part regardless of funding situations. The number posts and brochures provide the opportunity for additional detail while making a minimal impact on site appearance. Brochure availability could be somewhat dependant on future funding although they should be feasible in most budget years. If the number posts use the same numbering sequence as the large, embedded fiberglass map sign, they would not seem out of place even when brochures are unavailable.

The volunteer interpreter can not be relied on as the sole means of interpretation because availability and quality of volunteers will vary from year to year. The additional facilities needed for a volunteer do not detract from the site because they are all located off site (at the parking lot). The volunteer will compliment the other interpretive media rather than conflicting with them.

There is no definite time span for visitors to experience the site. One could experience the whole site in as little as 30 minutes. An interested visitor could easily spend two hours or more reading visitor information and

independently roving the trail. The average time a visitor would need to read the visitor information and take in the site would be about an hour.

VII. Interpretive Facilities

The ID Team discussed Elkhorn/Coolidge facilities needs in a meeting and an on site review. The following facilities will be added:

Historic District Entry Sign

An entry sign should be placed near the upper Elkhorn Cr. bridge on Road #2465 where visitors first enter the historic mining district. The sign would be embedded fiberglass framed with rustic wood, with rustic posts and would have an Elkhorn/Coolidge logo and brief message to the effect "Entering Elkhorn/Coolidge Historic Mining District." This sign should be legible from vehicles passing at 10 MPH.

Parking Lot Area

Parking Lot - A 15 vehicle parking lot and turn around loop with some parking spaces suitable for large motor homes and vehicles towing trailers.

A simple host unit with parking spur, vault, table and fire ring.

2 to 4 Day use tables.

1 unisex toilet.

A bulletin board.

An embedded fiberglass trail head sign as described above. This sign should incorporate a brochure dispenser.

Trail

A fully accessible trail will be constructed using the USDA Design Guide For Universal Access to Outdoor Recreation "moderate" level of accessibility. This is in keeping with the Roaded Natural ROS class for the area.

Using Forest Service Region One's trail handbook rating system, the same trail would rate either more or most difficult depending on what trail grades can be achieved. The primary difference in the two rating systems is a greater recognition of trail grade challenges by the Region One system. We will use the flattest grades that can be attained on the recommended location without excessive excavation/ embankment. A feasible location for this trail was roughly established by the ID Team on their field visit. At first approximation it appears maximum sustained grades on this location would be as high as 8% resulting in a most difficult level trail in the Region One rating system. However, the trail will be constructed so that all other parameters would rate easiest on the Region One system. The trail will be surfaced with fine grade aggregate, perhaps using soil cement or other appropriate surfacing.

Two trail bridges will be required on the preferred trail location. Treated round timber stringers and rough sawn treated decking will be used to construct these bridges, in keeping with the setting.

Benches will be located at the far end of the trail. Half log benches will fit this site best.

Number posts will be located near the trail at each structure/feature along the trail. The numbering system will conform to the numbering on the large, embedded fiberglass map sign and on the brochure.

Signs

Directional Signs - Directional signs should be located on the Pioneer Mountains Scenic Byway where the Lower Elkhorn Mine Road #2465 junctions with it. These signs should be large enough and descriptive enough to promote visitor interest in Elkhorn/Coolidge. Words to the effect of "Elkhorn/ Coolidge Ghost Town - X Miles" could pique visitor curiousity and improve visitation. If Road #2465 is built as a one lane road, there should also be a sign to inform visitors of the nature of the road they will traverse. Other directional signs will be needed at each junction along the Lower Elkhorn Mine Road.

Site sign - As described above an embedded fiberglass sign will be located at the parking lot. It will be an introductory sign that orients the visitor, describes what the Elkhorn/Coolidge area is all about, gives directions to get there and describes the level of accessibility or challenge level in common terms. It will also be equipped with a brochure box to dispense Elkhorn/Coolidge brochures described below.

Interpretive signs - Embedded fiberglass interpretive signs will be located at 8 points along the trail as previously described. Signs will be large lettered and mounted vertically (as opposed to at an angle to the ground) at approximately eye level. This mounting will allow them to be used for winter use (some visitors snowmobile to Elkhorn/Coolidge). Appendix B presents an alternative concept that allows for angled mounting in summer and vertical mounting in winter. The signs will use a combination of original photographs and artwork to depict conditions at the time Elkhorn/Coolidge was operational. Text should be written to reinforce the theme statement and interpretive goals as well as to communicate the message described in the section called Interpretive Media.

Warning Signs - A clear warning of potential site hazards should be displayed on one or more signs visible to all trail users. Signs should warn visitors to stay on developed trails and out of the buildings. Warnings should site examples of hazards but avoid trying to develop a complete list. Hazard examples include: scattered boards with nails, structures too weak to support human traffic, structures which may collapse at any time, and toxic tailings and runoff.

Other Signs - Other signs needed include disabled person's parking spots signs.

Brochure

A brochure describing the Elkhorn/Coolidge area will be developed. On one side of it there could be historic photos and/or artwork depicting Elkhorn/Coolidge during its active years. Accompanying text would tell the story much as the interpretive signs do, but with some additional detail. The brochure should also tell where additional information about the area can be obtained (books, reports etc.)

A map of the historic district could be depicted on the reverse side of the brochure. Each building or structure would be numbered on the map. Adjacent to the map would be a key to the structure identities. Map numbers would also correspond to number posts located near each structure.

The brochure should repeat the warning about site hazards described above.

Stabilization

Depending on funding, one or more of the structures of Coolidge will be stabilized to slow further deterioration. Re-roofing with materials similar to the original roofing is the most cost effective stabilization and will be used for this project. The Frank Tyro house and sauna are good candidates for stabilization. It would be good to stabilize one of the log structures lived in by the laborers as well, to show the contrast in living conditions. Many of the other buildings are deteriorated beyond the point where stabilization would be effective.

Stabilizing walls with cables could also be used on some buildings. This would seem particularly applicable to the mill, should the Forest Service gain control of it.

Stabilization should also include preserving the locations of all buildings and structures thru some permanent monumenting system.

Separate, snow roofs could be constructed for some of the buildings to slow deterioration. However, they look out of place and are not recommended for this site.

Accessibility

All new facilities will be designed for full access. As discussed above the trail will be fully accessible at the most difficult level using Region One's rating system or moderate difficulty using the Design Guide for Universal Access to Outdoor Recreation criteria. Only maximum grades limit ability to design a lower difficulty level trail. To reduce grades the trail would have to be lengthened or excavation/ embankment would have to be increased considerably. The shorter, more light on the land trail is more in harmony with the site and this challenge level is acceptable in this remote setting.

Materials and Style

It will be important that any new facilities added to the site not dominate the site or detract from the existing character. They should be constructed of materials and be of colors that are compatible with the site. Many of the structures on the site are log or rough sawn lumber. Weathered grays and browns are the predominate structure colors. Architectural style should reflect that prevalent during the period Elkhorn/Coolidge was in use.

Rustic "barn wood" sign posts and framing for the fiberglass embedded signs would be appropriate. Historic lettering and graphics style for the fiberglass signs would enhance the feeling of historic period. All signs and facilities should avoid bright, "modern" colors.

Because of the sites proximity to the Pioneer Mountains Scenic Byway, it would also be desirable to preserve unity with the byway by following the material/design pattern set for the byway as much as possible.

Volunteers

Volunteers will be extremely important to completing the Elkhorn/Coolidge project. Volunteer hosts have been previously mentioned as a means of improving understanding and protection of the site. Volunteers who have information about Elkhorn/Coolidge history should be sought prior to composing sign messages. Some volunteers may agree to let personal, historic photographs be used. A Mining Engineer has detailed the milling processes on video tape and may agree to help design artwork for the sign which interprets the mill. Volunteers to help with building stabilization will likely be available.

VIII. Costs and Funding

Based on concepts presented in this analysis, a preliminary cost estimate was made for the trail and parking lot development (Appendix C). Trail development including interpretive signs is estimated at $122M. Parking lot developments would add another $42M for a total of $164M. These costs will vary considerably depending on the trail and parking lot surfacing selected. The cost estimate presented here is based on a hot mix asphalt paved trail and a rolled gravel parking lot.

Capital Investment funding is proposed for trail and parking lot and ancillary facility construction. The parking lot is scheduled for funding in 1994; the trail for 1996.

Staged construction is an option that was considered, but not selected. It may gain favor if funding becomes scarce. The advantage of this option is that it would limit initial investment pending determination of whether use levels justify further investment. The logical stages would be to develop a gravel surfaced parking lot and trail and defer paving pending further use analysis.

Other funding options include ISTEA funds, available to counties for projects like Elkhorn/Coolidge which complement Scenic Byways. The best chance for securing such funds would be to form a private support group to approach the county commission. Another option would be to place a cash donation box on the site to augment appropriated maintenance funds. A possible, but locally unpopular option is to charge a parking fee to help defray maintenance and future reconstruction costs. The Elkhorn/Coolidge parking lot would meet the criteria established in the 1988 Washington Office 2330/6530 letter for charging a parking fee. Finally, Montana National Guard volunteer labor may be available to help with construction. National Guard engineering units may be able to help with earth work, gravel haul and perhaps building stabilization/ restoration.

No estimate of building stabilization/restoration costs is made. These costs could vary widely depending on how many buildings are worked on and to what degree. For the foreseeable future, available funding will determine building stabilization/restoration efforts rather than vice versa. The volunteer labor option may be the best way to expedite stabilization/restoration.

IX. Implementation Sequence

The following implementation sequence will be followed:

1994 - Construct parking lot, toilets, host site.

1996 - Construct interpretive trail, trail signs, benches.

1997 - Stabilize structures

X. Subsequent Steps

Following are subsequent steps that could help implement this project. Possible responsibilities are noted in parentheses:

1. Consider options to acquire interest in the mill and mines. Alternatively, seek agreement with the claimants regarding interpretation of the mill and mines. (District Ranger and District Staff).
2. Complete NEPA process for interpretive trail and trailhead. (District Staff).
3. Contact SHPO and seek concurrence with analysis. (Forest Archaeologist at time of NEPA analysis).
4. Contact Mine owners to keep them advised of plans as they develop. (District Ranger or District Staff).
5. Send copy of this document to AMARB to advise them of our plans and concerns. (District Staff).
6. Share this document with community leaders in Dillon, Wise River, Wisdom and Jackson and solicit their support and participation. (District Ranger and Forest Staff Officer).
7. Contact co-author of "One Man's Dream" Lorene Lovel of Pueblo, CO for loan of photographs and advice on sign messages. (Forest Staff or District Staff).
8. Contact Biz Patterson [Allen's Daughter], Butte, MT for loan of photographs. (Forest Staff or District Staff).
9. Contact Gilbert Dodgson, Wise River, MT for loan of photographs and anecdotal information. (Forest Staff or District Staff).
10. Contact mining engineer Rob McCulloch to solicit help with design and layout of mill workings interpretive sign. (Forest Archaeologist).
11. Develop data file for each interpretive sign including: general message, historic photos, related anecdotes, sample styles, siting details, recommended sizing and mounting. (Forest Staff or District Staff).
12. Consider promoting formation of an Elkhorn/Coolidge support group for the purpose of contacting the Beaverhead County Commission to solicit ISTEA funding. (District Ranger and Forest Staff Officer).
13. Locate, survey and design all facilities including the interpretive trail. (Forest Staff including engineering and District Staff).
14. Refine the cost analysis as plans develop. (Forest Staff including Engineering).
15. Prioritize buildings for stabilization/restoration. Schedule capital investment, challenge cost share and other funding options. (Forest Archaeologist).
16. Solicit working group of volunteers to help stabilize/restore buildings. (Forest Archaeologist).
17. Contact Montana National Guard to check volunteer labor availability. (District Staff).
18. Contract for interpretive sign design, wording, layout and construction. Furnish contractor data file. (Forest Staff).
19. Layout, draft and contract brochure. (Forest Landscape Architect and Forest Staff).
20. Consider Rails to Trails conversion for portions of Montana Southern RR. (District Ranger and District Staff).
21. Promote Elkhorn/Coolidge by sending articles and photographs to various travel magazines, clubs and regional newspapers. When: Following road reconstruction, parking lot and trail development. (Forest Public Affairs Officer).

XI. Literature Cited

GCM Services Inc. 1989. Cultural Resource Inventory and Evaluation for the Elkhorn/Coolidge Historic District.

Nichols, Shirley Wirtz and Lorene Lovell. 1976. One Man's Dream.

Ryan, J. Michael. 1989. An Interpretive Plan for the Historic Canyon Creek Charcoal Kilns.

Ryan, J. Michael. 1992. Administrative History and Rationale for the Wise River-Polaris National Scenic Byway.

Sharp, Grant W. 1976. Interpreting the Environment.

Sjostrom, Deb. 1992. Draft Pioneer Mountains National Scenic Byway Interpretive Plan.

Tilden, Freeman. 1977. Interpreting Our Heritage.

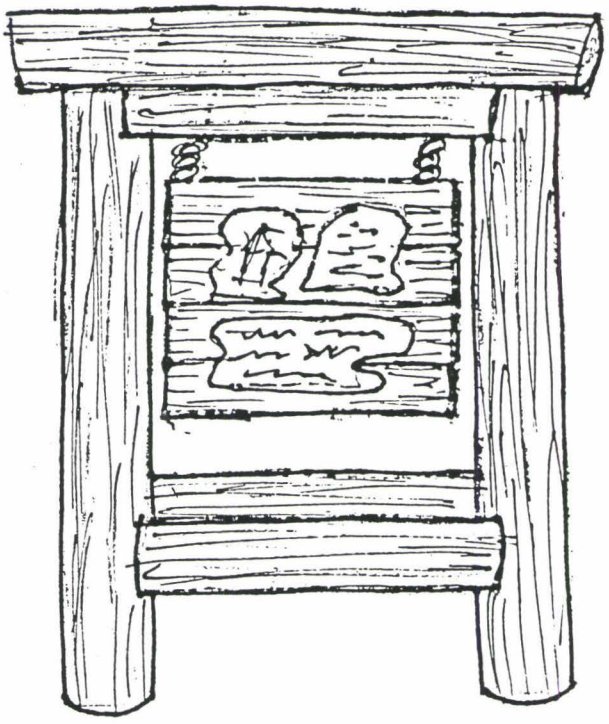
Trapp, Suzanne, Michael Gross and Ron Zimmerman. Undated. Signs, Trails, and Wayside Exhibits.

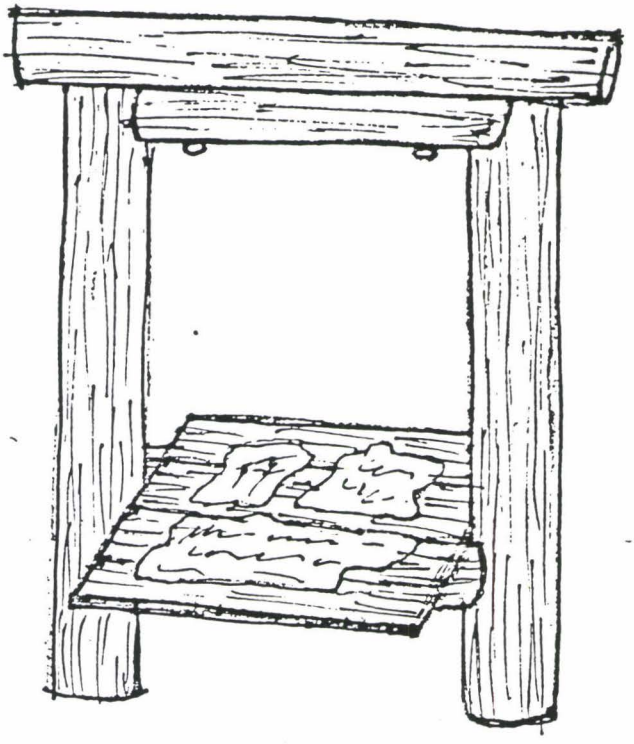
USDA Forest Service. 1992. Draft Design Guide For Universal Access to Outdoor Recreation.

XII. List of Preparers

Name	Position	Provided
Derksen, Lee D.	Recreation Forester	ID Team Leader/Scribe
Dezort, Anita	Landscape Architect	Design Advise/Drafting
Levert, Ed	District Ranger	Decisions
McKnight, Dale	Resource Assistant	Rec. Advise/Program Direction
Olson, Paul	Recreation Forester	Recreation Advise
Ryan, Michael	Forest Archaeologist	Cultural Resource Advise

Insert Appendix A





INTERPRETIVE SIGN CONCEPT

APPENDIX C
COST ANALYSIS

Except where estimates are noted, all unit costs are from Region 1 1993 Cost Estimating Guide for Road Construction or from Wise River-Polaris Scenic Byway (old name) Phase 3 Contract Actual Bid Costs.

TRAIL

1. Bridges, est. 30Lf each: 2 ea = 60Lf @ $132/Lf	$ 7,920
2. Trail Clearing and Excavation:	
D4 Tractor 32hrs @($31.27/hr+25.90/hr)	1,829
3. CMP, 2 each, 10' long: 20Lf @ $23/Lf	460
4. Subgrade Gravel:	
[(4978'x8'x4/12')÷27cuft/cuyd] X $18/cuyd	8,850
5. Pavement:	
[(4978'x6')÷9sqft/sqyd] X $20/sqyd	66,373
6. Topsoil Apron:	
{[(2'x1/2')÷2] X 2 X 4978'}÷27cuft/cuyd @ $18/cuyd	3,319
7. Slash & Stump Removal, Piling & Burning:	
Backhoe: 8 hrs ($30.98/hr + $16.40/hr)	379
Dump Truck: 8 hrs ($29.10/hr + $27.80/hr)	455
Labor: 16hrs @ $25.82/hr	413
8. Signs, Interpretive: 8 ea @ est. $1000	8,000
9. Subtotal:	$97,998
10. Administration and Program Management: @ 25%	24,500
11. Total: $122,498	
12. Round to:	$122M

TRAILHEAD

1. Clearing, Excavation and Gravel Rough Estimate by Dick Judge	$15,000
2. Toilet, Aspen: 1 ea @ $8,677	8,677
3. Tables, Concrete: 5 ea @ $425	2,125
4. Signs, Directional: 3 ea @ $140	420
5. Bulletin Board, 3 Panel: [3(4X4)] X $22/sqft	1,056

6. Fence Around Tables Only, Jackleg: 500Lf @ $5.42/Lf	2,710
7. Fire Rings: 1 ea (host unit only) @ $231	231
8. Historic District Entrance Sign, Large Embedded Fiberglass: 1 ea @ est. $1000	1,000
9. Vault, Waste Water: 1 ea (host unit only) @ $2000	2,000
10. Subtotal:	$33,219
11. Administration and Program Management: @ 25%	8,305
12. Total:	$41,524
13. Round to:	$42M
14. Project Grand Total, Trail + Trailhead	***$164M***

CULTURAL RESOURCE INVENTORY AND EVALUATION

for

THE ELKHORN/COOLIDGE HISTORIC DISTRICT

for

THE MONTANA DEPARTMENT OF STATE LANDS
1625 - 11th Avenue
Helena, Montana 59601

by

GCM Services, Inc.
P.O. Box 3047
Butte, Montana 59702

November 1989

TABLE OF CONTENTS

INTRODUCTION 1
LEGAL DESCRIPTION OF THE PROJECT AREA 4
METHODOLOGY 5
RESULTS OF SITE FILES AND RECORDS SEARCH 6
GENERAL FEATURES AND PHYSIOGRAPHY OF THE PROJECT AREA 7
CULTURAL BACKGROUND 9
HISTORY OF THE ELKHORN/COOLIDGE PROJECT 14
SUMMARY, EVALUATION AND RECOMMENDATIONS 22
NATIONAL REGISTER ELIGIBILITY 23
POTENTIAL IMPACTS TO THE SITE 24
RECOMMENDATIONS 25
BIBLIOGRAPHY 26

LIST OF FIGURES

Figure 1. General location of the Elkhorn/Coolidge historic distric. 2

Figure 2. The Elkhorn/Coolidge historic district 3

Figure 3. 1928 Plat map of claims in the Elkhorn mining district.November 20, 1989 mines. 17

INTRODUCTION

In 1982, the Abandoned Mine Reclamation Bureau of the Montana Department of State Lands (DSL) contracted the Cultural Resource Division of the Mineral Research Center in Butte to conduct cultural resource inventories and evaluations of selected hard rock and coal mine sites in Montana which were slated for reclamation work. Included in these sites was the Elkhorn mine located on the west side of the Pioneer Mountains in Beaverhead County [the site should not be confused with the more widely known Elkhorn mine and town site in Jefferson County] (Figure 1). An investigation of the mine and of the adjacent town site of Coolidge was undertaken in October 1982. Paul Anderson was the principal investigator. The Elkhorn mine and mill sites and the Coolidge town site were described as a historic district and were assigned the Smithsonian site number 24BE997 (Figure 2). The field work was conducted under a Forest Service Special Use Permit. The report of this investigation, "Cultural Resource Inventory and Evaluation for Elkhorn Mine Historic District" was issued to the Montana Department of State Lands in March 1984.

In September 1989 GCM Services, Inc. undertook a revision and re-evaluation of the 1984 report for the Montana DSL. The Elkhorn/Coolidge historic district was revisited, inventoried, and photographed in October 1989 under Forest Service Special Use Permit No. 4981. The field work was done by Paul Anderson, historian and principal investigator; Connie Moore, archeologist; and Jim Duran, cartographer, all of GCM Services, Inc. Site maps were prepared by Jim Duran; photographs were taken by Paul Anderson. The report was edited by Lynn Fredlund and Cathy Casebolt.

This revision of the 1984 report presents the results of the 1989 inventory of the Elkhorn/Coolidge historic district (24BE997) and a re-evaluation of the site's physical integrity and its significance in terms of the National Register of Historic Places (NRHP). The Beaverhead Forest Service's cultural site record form for the district is included in Appendix A. The site form is also on file at the state repositories at the State Historic Preservation Office, Helena, and at the Department of Anthropology, University of Montana, Missoula.

All field notes, photographs, and supportive information resulting from the cultural resource fieldwork will be maintained at the office of GCM Services, Inc., Butte, Montana.

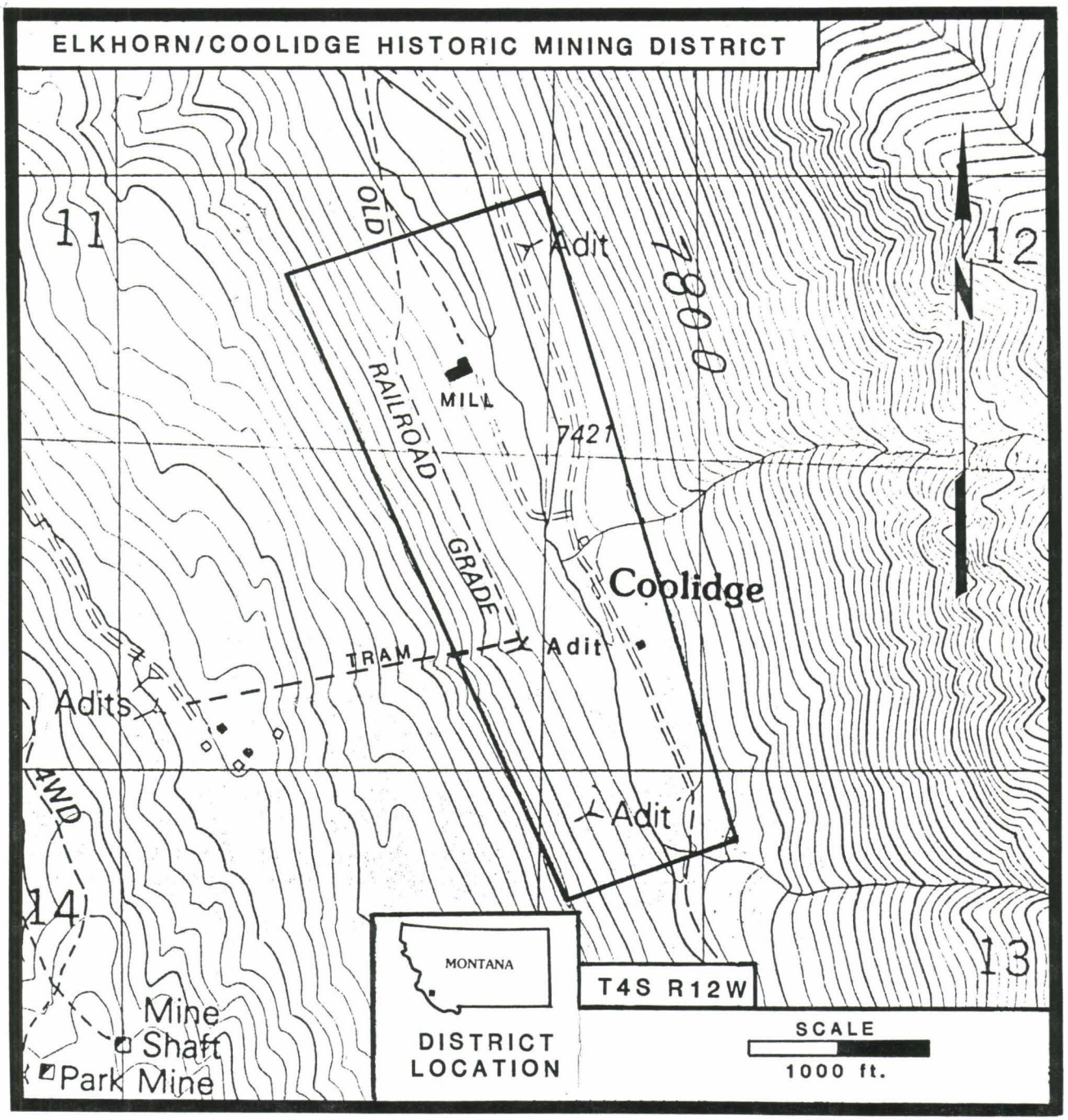


Figure 2. The Elkhorn/Coolidge historic district (from USGS Elkhorn Hot Springs, Montana Quad).

LEGAL DESCRIPTION OF THE PROJECT AREA

The Elkhorn/Coolidge historic district is within the following areas:

T4S, R12W	SE1/4 SE1/4 & SE1/4 NE1/4 SE1/4 Section 11
	W1/2 SW1/2 SW1/4 Section 12
	W1/2 NW1/4 Section 13
	E1/2 NE1/4 Section 14

METHODOLOGY

The inventory and recording of cultural resources is designed to meet all legal requirements of the National Historic Preservation Act, 1980 Amendments, and other applicable federal and state laws and guidelines. The information is designed to provide all necessary data to allow agency review for National Register of Historic Places (NRHP) eligibility and a determination of the effects of the proposed action.

Prior to the initiation of fieldwork, the state site files at the University of Montana, the Montana Historical Society's Historic Preservation Office files and the Montana Fish and Game Commission's Montana Historic Preservation Plan and Historic Sites Compendium (1975) were searched for previously recorded sites in the area of the Elkhorn/Coolidge historic district. The Forest Service site/survey atlas was also consulted for sites within the vicinity of the project area. The Bureau of Land Management's mineral survey records in the Butte office were consulted for relevant GLO plat maps, historic survey plat maps, and historical indices showing site ownership and historic features.

The photo archives at the Montana Historical Society in Helena and the personal collection of Elizabeth Patterson were searched for historic photos of the Elkhorn/Coolidge district.

The Montana Bureau of Mines and Geology file on Montana mining properties were examined for information on the Elkhorn mine, as were government reports and other relevant materials in the Montana Tech library in Butte and the library and archives at the Montana Historical Society in Helena.

The site area was examined through a pedestrian inventory following standard archeological survey procedures. The pedestrian surveys are designed to provide the most complete coverage of the area possible. Undisturbed areas were systematically examined for possible prehistoric activities. However, many areas within the historic district have been disturbed by mining activities and construction of residences or other structures and had there been any prehistoric cultural materials, they would have long since been buried or destroyed.

Collection of artifacts is limited to diagnostic or patterned tools on prehistoric sites and selected artifacts on historic sites which might aid in dating the site.

Subsurface testing is conducted to establish the presence or absence of buried cultural materials. The need for testing on prehistoric sites is determined on a site-by-site basis at the discretion of the project director. Testing of historic sites is generally dependent on pre-fieldwork review of the literature, which might indicate the presence of significant features or structures.

Each structure and feature was photographed in black and white negative film.

RESULTS OF SITE FILES AND RECORDS SEARCH

The sites files at the University of Montana, the files at the Montana Historical Society's Historic Preservation Office, and the Montana Fish and Game Commission's Montana Historic Preservation Plan and Historic Sites Compendium were searched for previously recorded sites in the area. The Compendium includes the Elkhorn/Coolidge historic district as one of its sites for Beaverhead County, although no official record was submitted to the state site files. The state site files did not include four historic sites within the same township as the Elkhorn Coolidge Historic district: 24BE789 in the SW1/4 NW1/4, Section 21, a "historic structure"; 24BE266 in the SE1/4 SE1/4, Section 27, a "historic mining camp"; 24BE839 in the NW1/4 SE1/4, Section 33, a "historic cabin"; and 24BE251, the Winkley mining camp.

The Winkley mining camp is a small mining operation located in the SE1/4 SW1/4, Section 12, just east of Elkhorn site and consists of a mine shaft, two corrals, a watering trough, and a log/frame cabin and cover an area of about 500 x 500 ft. The mine was apparently in operation around 1923-1925 and was run by a W. E. Winkley. It is not known if the operation was connected to the Elkhorn Mine but its proximity to Coolidge and tin which he period it was operating would seem to indicate that it might have been a prospect operation for the Elkhorn Mine or perhaps a small independent operation by one of the miners living in Coolidge at that time.

The Forest Service site/survey atlas shows one Forest Service site, 87-BE-2-3, in the northeast corner of the Elkhorn/Coolidge historic district. The site appears to be the same as Feature #2, an adit opening, which is described in the site record found in Appendix A. No other Forest Service or Smithsonian numbered sites are indicated within the immediate vicinity of the Elkhorn/Coolidge historic district. Unrecorded historic sites in the area would most likely be other mining operations. No prehistoric sites were located on or near the Elkhorn Mine.

Historical documentation on the Elkhorn/Coolidge historic district is rather sparse for an enterprise of this magnitude. The personal papers of William R. Allen at the Montana Historical Society proved to have limited information on the development of the Elkhorn mine, while Allen's 1949 autobiography, Chequemegan, does not even mention the Elkhorn project. His daughter, Elizabeth Patterson, also stated that he rarely talked about the Elkhorn mine. The files on Montana mining properties at the Montana Bureau of Mines and Geology in Butte contained useful information, especially a private 1946 report evaluating the mine by Harry J. Evans. Government reports with significant information on the Elkhorn district were limited to Winchell (1914) and Geach (1972) but Winchell's study was made before the major development of the Elkhorn property occurred, while Geach's account presents only a brief history of the project.

The most relevant newspapers for information on the Elkhorn mine would be those of Dillon, which include The Dillon Examiner and The Dillon Tribune. A thorough reading of these periodicals appears to have been done by Oren Sassman in his 1941 study of metals mining in Beaverhead County. His account of the Elkhorn venture is the most thorough available although based almost solely on the Dillon newspapers and on Allen's personal papers.

The photo archives at the Montana Historic Society and the personal collection of Elizabeth Patterson failed to reveal any significant photos not already contained in Wirtz and Lovell (1976).

GENERAL FEATURES AND PHYSIOGRAPHY OF THE PROJECT AREA

General Topography

The Elkhorn/Coolidge historic district is located about 50 miles southwest of Butte, Montana on the west side of the Pioneer Mountain Range. The site is situated in a narrow north/south trending valley which forms part of the upper drainage for the Wise River. Elkhorn Creek flows through the site to the north into the Wise River which, in turn, flows northward into the Big Hole River. The terrain is mountainous and heavily forested with Tweedy and Barb mountains (11,154 ft and 10,497 ft) located four to five miles to the east and Comet and Saddleback mountains (10,212 ft and 10,118 ft) two miles to the south of Coolidge.

Climate

The area's climate is influenced by its proximity to the Continental Divide. The project area is east of the divide where the climate is characterized as continental with warm summers and winter conditions that alternates between sub-zero arctic air and warm dry chinook winds.

The average winter temperature in southwest Montana ranges from around freezing to more than 50° below zero F. Temperatures, however, vary greatly due to the mountain sometimes blocking cold air masses from Canada. In the summer the higher elevations allow for cooler summer temperatures (60-68° F) in the mountains. The mountains also have a major effect on the climate, in that they collect additional precipitation from the Pacific rains. The additional precipitation often totals two to three times more annual precipitation than in the lowlands and has a tendency to produce cooler temperatures in the nearby areas.

Vegetation

The project area is located within a mountainous forest environment dominated by dense stands of lodgepole pines and lesser numbers of Douglas firs. Shrubs found in the undergrowth include: whortleberry, shiny leaf spiraea, rose spiraea and Utah honeysuckle. Grasses in the open areas include pine reedgrass, elk sedge, and bluegrasses.

Geology

The geology of the project area is described by Alexander Winchell as follows:

> The country rock of the Elkhorn district is a porphyritic biotite-hornblende-quartz monzonite. In general, its porphyritic character is not noticeable in the field but becomes apparent in microscopic study. Large orthoclase crystals poikilitically inclose so much foreign material that the rock is given a granitic aspect megascopically. The included minerals are euhedral plagioclase, quartz, biotitle, hornblende magnetite, apatite, and rarely pyrite. The monzonite of the southwestern part of the district is dark greenish gray, but that near Wise River is light gray and similar to the Butte quartz monzonite.
>
> The quartz monzonite of the Elkhorn district extends south about 8 miles to the Polaris mine, southwest about 4 miles to Dory's ranch on Grasshopper Creek, and apparently occupies the mountains to the north and east to Hecla and at least as far as Mount Torrey. Within the district the quartz monzonite is penetrated

by dikes of aplite and pegmatite and also by fissure veins containing copper ores in a quartzose gangue.

Much of the region has been glaciated, but drift is not abundant. There is a moraine in the mouth of the gulch east of Dory's, about 4 miles north of Polaris (Winchell 1914:169).

CULTURAL BACKGROUND

HISTORICAL BACKGROUND OF THE PIONEER MOUNTAINS

Exploration of the region

The Pioneer Mountains are located in an area rich in precious minerals, and also rich in the history of men's attempts to find and extract those minerals. The region was the focus of one of the country's last major gold and silver rushes. Although the Pioneer Mountains were not a factor in the initial rush, the area is surrounded by the remnants of the early gold camps at Bannack, Argenta, Alder Gulch, Silver Bow, Highland City, and dozens of other mining camps. A decade after the first gold strikes, the Pioneers would figure as a major silver producing area. Like the other areas, the Pioneers would experience the same boom-and-bust cycle.

One of the earliest generalized references to the Pioneer Mountains was made by Captain Meriwether Lewis when Lewis and Clark expedition had reached Beaverhead Rock, north of present-day Dillon, Montana. One of the expeditions members, George Shannon, had been missing and Lewis sent Reuben Fields out to search for him. Fields returned to camp at noon August 8, 1805 and reported that he had been some miles up the Wisdom (later to be called the Big Hole) River to a point where "...it entered the mountains" (DeVoto 1953:181). This vague reference is the only mention of the Pioneer Mountains region made by Lewis, although he did note that there were "great quantity of beaver, otter, and musk-rats in these rivers" (DeVoto 1953:181).

In spite of this abundance of fur-bearing animals, the region never developed as a center for the fur trade primarily because of the implacable hostility of the Blackfeet Indians. The pattern of relations with the Blackfeet was set by Lewis on the expedition's return journey when, in the expedition's one hostile encounter with Indians, Lewis and his men were involved in a small skirmish with the Blackfeet near the Great Falls of the Missouri on July 27,1806. Blackfeet warriors attempted to take guns and horses from the expedition, and in the ensuing scuffle two of the Indians were killed (DeVoto 1953:433-440).

Individual fur trappers may have roamed through the Pioneer Mountains during the next two decades, although there is no documented evidence to substantiate this. Large scale fur trading operations were all repulsed by the Blackfeet. Both the Missouri Fur Company and the Rocky Mountain Fur Company were forced by the Indians to abandon attempts to create a fur trade in the area (Oglesby 1963; Chittenden 1954; Toole 1959).

In addition to the Blackfeet, the area around the Pioneer Mountains was also visited and hunted by Nez Perce, Shoshone, Bannock, and the Crow. Indian resistance in the area was eventually broken in the late 1830's. The river streamer St. Peters arrived at Fort Union in 1837 with a crew member who had smallpox. Having little or no immunity to the disease, the Indian tribes throughout the region were struck down by epidemics which spread like wildfire. The Blackfeet lost at least half of their population.

Lieutenant John Mullen, led an exploratory party through the region during the winter of 1853-1854. Mullen was with the large expedition of Governor Isaac I. Stevens who was surveying possible railroad routes through the Northern Rockies. Stevens sent Mullen and his party to explore the area around the Bitterroot Mountains. In November of 1853 Mullen and his party left the Bitterroot Valley and crossed over Big Hole Pass into Big Hole prairie and then south along the Red Rock River to Fort Hall. They returned from Fort Hall in December and passed by the same

Beaverhead Rock mentioned by Lewis and Clark. Mullen then led his men along the Big Hole River at the northern end of the Pioneers where they crossed over the Continental Divide into the Deer Lodge Valley as they headed back to their base at Fort Owen in the Bitterroot Valley (Hamilton 1957).

The region lay virtually undisturbed and unknown through the 1850's. This isolation ended abruptly in the early 1860's as the region was suddenly overrun by prospectors and miners trying to strike it rich in one of the country's last major gold rushes.

The Gold Rush

Who first discovered gold in Montana has remained a subject of controversy. Some credit Father DeSmet, who reportedly was aware of traces of gold in the Bitterroot area but kept it secret because he dreaded the effects a gold rush would have on his Indian charges. John Owen, who ran a trading post at Fort Owen in the Bitterroot Valley, made a laconic entry in his journal on February 15, 1852, which simply said: "Gold hunting. Found some." Nothing more was said or done, indicating that the discovery was not taken seriously or was of little consequence. Another claimant as the first to find gold was a mountain man named John Silverthorne, who showed up at Fort Benton in 1856 with over $1500 worth of dust. But Silverthorne would not divulge the source of the gold and there is no way to tell if it was even found in Montana. A better claim as the first came from a half-blood Indian called Benetsee whose real name was Francois Finlay. Reports years later credit Benetsee with finding gold in 1850 of 1851 in the Gold Creek area near present-day Garrison, Montana (Cushman 1973).

None of the above "discoveries" are of any real importance since none were publicized or substantiated and, therefore, had no part in starting the gold rush. The first gold strike of real consequence was made by James and Granville Stuart and Reese Anderson. They were returning from the California gold fields in 1857 and ended up spending the winter in the Beaverhead Valley. In the spring of 1858, they traveled through the Deer Lodge Valley. They had heard of Benetsee's reported strike in the area and, trying their luck with a prospect hole at Gold Creek (then called Benetsee Creek), they found a good showing of colors. However, they were not able to work their claim until 1862. Although it was the first real gold strike in the region, it was never a great bonanza, and it is questionable whether this led to the overall rush into the region (Toole 1959, Stuart 1925).

In any case, conditions were ripe for an influx of prospectors to the region. The California, Nevada and Colorado gold fields were in decline. The Indians were no longer a threat and, with the advent of steamboat traffic to Fort Benton and the building of the Mullen Road to the west, the region became accessible for the first time. Many miners gravitated to the region while on their way to the Idaho gold fields. One such group from Colorado was trying to find a short cut through the Bitterroots in the summer of 1862 when, on July 28, John White and William Eades found a rich strike of placer gold on Grasshopper Creek, just south of the Pioneer Mountains (Cushman 1973, Toole 1959).

This strike set off a major gold rush and by the autumn of 1862, the town of Bannack, which had sprung up around the diggings, had some 500 inhabitants. By the spring of the following year, it had grown to over a thousand. The gold taken on the Grasshopper was some of the purest ever found. Most of it is assayed at 990 fine (99% pure) or higher. It has been estimated that in the year following the first strike, more than five million dollars worth of gold was taken from the gulch. With this much gold and no real government, it is not surprising that Bannack attracted not only miners, but also a motley assortment of gamblers, prostitutes, saloon owners, merchants and

road agents. Violence was epidemic, although disease killed more than bullets or knives. Living in cold, damp dugouts, tents or cabins when they weren't working in the often freezing winds and water on their claims, the miners contracted pneumonia, typhoid, tuberculosis and other diseases. One estimate places the death count at ten percent between the months of September and May (Cushman 1973). During its brief boom, Bannack was a typical rough and dangerous mining camp. Within a year, however, it had peaked as the best claims were worked out and the miners left for the new strikes.

The town survived and settled into a more tranquil existence. During the winter of 1864, vigilantes cleaned out the worst of the road agents who, under the leadership of Sheriff Henry Plumber, had terrorized the area. On May 26 the town was named as the territorial capital, with Sidney D. Edgerton appointed as the first governor. Mining continued in the area, even though the placer deposits were worked out. Gold-bearing quartz veins were found in the hills near Bannack and the first stamp mill in the Montana Territory was set up during the winter of 1862-1863. Known as the Bannack City Quartz Mill, the hand-built six stamp mill was driven by a water wheel and pounded out $1500 worth of gold per week. The following year, a stream-driven mill with 24 stamps was set up, which was able to process ore for as little as four dollars a ton (Wolle 1963).

Following the strike at Bannack, miners swarmed over the region and even richer gold finds were made. In May 1863, the greatest placer rush in Montana's history was set off by the strike at Alder Gulch. Within a year and a half some ten thousand persons were living and working in the town of Virginia City, Nevada City and numerous other towns strung along the gulch for some 14 miles. In its first five years, it is estimated that the gulch produced between 30 and 40 million dollars worth of gold (Malone and Roeder 1976). Equally rich strikes followed at Last Chance Gulch and Confederate Gulch near Helena. Other smaller mining camps grew like mushrooms and then disappeared with equal speed.

Bannack was revived in the 1890s when the old placer claims were reworked by dredges. In 1895 the Gold Dredging Company built the "Fielding L. Graves", the first successful electric, bucket lift dredge in the country. Four other boats were built to work the gravels of Grasshopper Creek, while a sixth operated on Jeff Davis Creek at Horse Prairie. Most of the dredges worked profitably until 1902 when they ran out of auriferous gravel. These later operations were not as picturesque as the early placer mining but they were far more productive. Total production from dredging in the Bannack area has been estimated at 12 million dollars (Wolle 1963).

Bannack declined after the dredging operations ended and became a ghost town by the 1920s. In the 1940s, a movement developed to save the town; as a result, Bannack became a state park on August 15, 1954.

Another major gold camp at the southern end of the Pioneer Mountains was Argenta, located at the mouth of Rattlesnake Canyon. It was originally called Montana City when it was charted on January 6, 1865, but this was later changed to Argenta. The placer deposits were of little importance but the silver quartz lodes were exceptionally rich and Argenta became the territory's first recorded silver strike. The first smelter in the territory of Montana was constructed in 1866 to process the ore. The camp thrived for about a decade, with its population reaching a peak of 1500 persons. By the mid-1870s the town was all but deserted (Davis 1962).

Although Grasshopper Creek flows south from high in the Pioneer Mountains, no major gold strikes were made upstream from Bannack. Prospectors combed the headwaters for mother lode without success. A decade or more later, the Pioneers would yield up precious metals but they would, for the most part, be silver rather than gold.

The Silver Boom

One of the most important silver mines in the southern part of the Pioneers, the Polaris, was located on January 31, 1885, although some reports said the mine was worked sporadically shortly after Bannack was founded. The main vein of ore was one hundred feet deep and fifteen inches thick. The high-grade ore yielded from 75 to 400 ounces of silver per ton and was a steady producer up to 1891. The Polaris Mining Company, a New York syndicate, bought the mine in 1892 and reportedly took out $250,000 before financial problems forced them out of business. J. E. Morse then bought the mine at a sheriff's sale and then sold out to the Silver Fissure Mining Company in 1905. The company built a 100-ton smelter which operated for only one year before it was forced to close down due to an insufficient supply of ore. Since then, the property has been worked intermittently on a small scale. Total production from the mine is recorded at 4243 tons, which includes 231 ounces of gold, 116,506 ounces of silver, 19,357 pounds of copper, 5126 pounds of lead, and 11,900 pounds of zinc (Geach 1972).

At the southern end of the Pioneers, other silver mines were located in the vicinity of Bald Mountain. The Silver Key Lode mine operated between 1876 and 1885 and was a moderate producer. The Lost Cloud mine was worked in 1891 while the Silver Fissure mine produced $60,000 in silver during 1886 (Wolle 1963). The Elkhorn mine was discovered in 1873 but was not a major producer due to the difficulty in transporting ore from the mine (Wirtz and Lovell 1976).

The most important silver strikes were made at the northern end of the Pioneers. The first major find occurred in April 1868 when John Vipond discovered the Mewonitoc lode and gave his name to the district located around Quartz Hill and Vipond Park. The mines developed slowly due to their isolated location. A road had to be built to Dewey and then along the Big Hole River to Divide. From Divide, ore was hauled by wagon to the railroad at Corinne, Utah for shipment to Swansea, Wales for refining. The completion of the Union Pacific Railway from Corinne to Silver Bow near Butte in 1881, at least eliminated the long, slow wagon haul to Corinne but shipping ore to Swansea remained prohibitatively expensive for all but the most high-grade ores (Geach 1972; Wolle 1963).

The most important mine in the district was the Lone Pine, which was run for five years by the Partridge Brothers. It was sold to the Jay Hawk Company, an English syndicate, in 1891 for $725,000. A 25-stamp mill and a concentrating plant were erected at the mine which produced $33,000 in silver each month and also considerable amounts of lead, zinc and copper. The operation closed in 1895 because of low silver prices and a depletion of good ore. In 1933 the mine was reopened under the Quartz Hill Mining Company which had bought the property in 1928. The mine was a steady producer from 1933 to 1950. Some ore was also produced in 1958, 1961 and 1962. Total production of the Quartz Hill District between 1902 and 1965 was 57,261 tons of ore, which contained 1118 ounces of gold, 1,024,485 ounces of silver, 198,991 pounds of copper, 72,032 pounds of lead, and 500 pounds of zinc (Geach 1972; Wolle 1963).

By far the richest strike made in the Pioneers occurred early in the summer of 1873 when James Bryant, Jerry Grotevant, and some other men were in the area on a trapping expedition. Bryant wanted to relocate a claim he had made the year before along Trapper Ridge. While trying to catch some loose horses, Grotevant picked up a rock to throw at one of the horses and noticed that it contained native silver ore. Word soon leaked out and, throughout the summer, the area was swarming with miners looking for other lodes. Many were found and a number of mines were located in the vicinity. Soon after, the town of Trapper City was built along the sides of Trapper

Creek. Trapper City and the mines were to be short-lived, however, as the main development in the area shifted to the mines on Lion Mountain (Davis 1962).

The silver-lead outcrops on this bare, white rock upthrust were discovered shortly after the strikes at Trapper Ridge. The unusual mountain was named when a friend of Grotevant, Joe McCreary, mistook Grotevant's white mule for a mountain lion and ran to camp for help. When his mistake was discovered, the other miners made sure McCreary would never live it down and named the mountain where the mule was spotted as "Lion Mountain". The area developed rapidly and in the spring of 1877, Noah Armstrong, who owned the Atlantis mine in the Trapper area, took over most of the workings on Lion Mountain under the Hecla Consolidated Mining Company. This company would dominate the district from this point on.

The town of Lion City grew up at the base of the mountain. At its peak it had a population of five to six hundred. A forty-ton lead smelter was built at Glendale, which produced one million ounces of silver and thousands of tons of lead and copper annually. Although working conditions in the mines were extremely difficult due to the bitter cold and rarified air, some twenty miles of underground workings were driven into the center of Lion Mountain (Wolle 1963).

In 1881, the Hecla Company reorganized and came under the direction of Henry Knippenberg. Shortly after he assumed control, Knippenberg had the town of Hecla built a mile away from Lion City. The mill and leaching works at Glendale were rebuilt and enlarged after a fire destroyed the original plant in 1879. By 1885 the plant consisted of three blast furnaces, two crushers, a large roaster and other facilities. Transportation from the mine was improved with the construction of a four mile long, narrow-gauge tramway from Hecla to the concentrator. A further transportation boost was given to the operation in 1882 with the completion of the Utah and Northern Railway. The line ran from Ogden, Utah to Silver Bow, Montana, along the east side of the Pioneers through Melrose.

Supplying charcoal to the smelting furnaces at Glendale developed as a satellite industry. The company used up to 100,000 bushels of charcoal a month. The wood was supplied by Canadian and French woodcutters who cut the trees. The wood was then burned in pits by Italian laborers who delivered the finished charcoal to the furnaces for eleven cents a bushel. The mining operations finally ended in 1904. During the 20-year period of operations under Knippenberg, the mines produced an estimated $22 million worth of silver and other metals and paid dividends to stockholders totaling $2,057,500 (Wolle 1963; Davis 1962; Geach 1972; Winchell 1914).

The 1880s were the boom period for Montana silver mines. The railroads finally reached western Montana during the first years of the decade. This brought many ore deposits within economical distance to smelters and reduction works. During the decade, the Territory was the second largest supplier of silver in the nation, except for 1887 when it was first. An off-shoot of the silver boom was a revival of gold mining and an increase in production of zinc, lead and other metals usually found with silver. During this period, the Territory's average annual silver output came to an estimated $20 million.

Unfortunately, the silver boom was supported by an artificial base which collapsed in 1893. During the period of the silver boom, worldwide production of silver increased; at the same time, many nations were dropping the silver standard as a base for their currencies. These two factors drove the price of silver down and should have ended the boom. However, the industry was propped up by the Sherman Silver Purchase Act which mandated the government to buy the domestic output of silver for coinage. This support came to a crashing end during the Panic of 1893 when President Grover Cleveland became convinced that the Sherman Act was a prime cause

of the depression and prevailed on a special session of Congress to repeal the act. It was a blow form which the silver industry never really recovered. From that point on, much of the silver, gold and other metals mined in Montana were for the most part, merely a by-product of the large-scale copper mining at Butte (Malone and Roeder 1976).

Twentieth Century Mining

With the end of the silver and gold mining boom in southwestern Montana, the emphasis switched to a search for non-precious metals. Increasing demand for metals such as lead, zinc, copper and tungsten resulted in the development of non-precious metals mining in the Pioneers and the surrounding regions. Work on mining properties of this type has been undertaken since the turn of the century, although usually on a small-scale, intermittent basis.

Improved technology, largely caused by World War II, and the post-war government stockpiling policy further encouraged mining of non-precious metals. The tungsten deposits in the Pioneers grew in significance. The Brown Lake Ivanhoe mine is located in Rock Creek Canyon, just west of Browns Lake. The Ivanhoe claim was first patented in 1903 and was originally worked for copper and silver. Decades later, in 1942, R. C. McLaughlin studied some of the stockpiled ore with ultraviolet light and found fluorescent tungsten minerals. Following this discovery, McLaughlin and his associates organized Fluorescent Mines, Inc., and staked 17 mining claims, 15 on the north side of Rock Creek and two on the south side. A small tabling mill was set up in 1944 which produced tungsten concentrates from about 30 tons of tactite mined from the workings.

Nothing more was done with the property until 1952 when the holdings were taken over by American Alloy Metals, Inc. who did some exploration work on the Ivanhoe claim. The next year American Alloy Metals leased the property to Minerals Engineering Company who worked the deposits. In 1954, Minerals Engineering Company bought the stock and assets from American Alloy and mined the deposits from an open-pit operation. The ore was treated at a 300-ton flotation mill located at Glen and the concentrates were sent to Salt Lake City for refining. From 1954 to 1956, the Browns Lake deposit was Montana's leading producer of tungsten. Production was stopped in 1958 after the government terminated its domestic stockpiling program. Up to that point, the mine produced 625,107 tons or ore averaging 35 percent tungsten. It has been reported that the original mine tunnels of the Ivanhoe remain intact with some of the original machinery still inside, although the entrances have been covered by talus from recent workings on the property (Geach 1972).

The Lost Creek mine is located on the north slope of the Twin Adams Mountain. For a time it ranked second to the Browns Lake deposits as a producer of tungsten ore. The property was developed in 1951 by Minerals Engineering Company and its operation peaked from 1952 to August 1956, producing 21,150 tons of tungsten ore which averaged 18 percent tungsten (Geach 1972).

At the present time, little mining is being conducted in the Pioneers but, given the history of the area, it seems likely that mining will be a factor in the future of the region.

HISTORY OF THE ELKHORN/COOLIDGE PROJECT

Beginning of the Elkhorn Mining District

The Elkhorn district was first located in the early 1870s and the first discovery of silver ore in the district was made by Preston Sheldon in 1872. He shipped a carload of the ore, assaying 300

ounces of silver to the ton, from a claim called the Old Elkhorn, located about a mile southwest of Coolidge. In 1874, Mike T. Steele located the Storm claim -- adjacent to the west side of the Old Elkhorn claim -- and shipped two carloads of ore, assaying 260 ounces of silver to the ton. Next to be discovered was the Mono lode which was located by Clark Smith in September of 1875. By 1885 D. B. Mason and Steele acquired the claim and sank a 35-ft shaft. In 1888, the Storm Mining Company sank a 90-ft shaft on the Mono vein, and eventually the shaft would reach a depth of 250 ft (Winchell 1914; Sassman 1933; Geach 1972).

Other mines in the district were operated by the Magnet Company in 1887 on Bailey Mountain. The Dillon Examiner reported on January 27, 1892 that a number of mines were producing, including the Critic, Fraction, Navajo, Good Enough, Park, Red Sky, Hamburg, Washington, Guy, Last Chance, Cleopatra, Mascott [sic], and Cleveland. A 10-stamp mill had been built at the at the Critic and Fraction mines. In 1895, Frank Williams shipped ore from the Simpson claim, next to the southwest side of the Old Elkhorn claim (Sassman 1933).

Mining operations, prior to 1881 when the Union Pacific railroad was completed to Silver Bow, were severely restricted by the lack of economical transportation. In order to be smelted, the ore had to be hauled by wagon to Corinne, Utah and then sent by railroad to San Francisco and from there by ship to Swansea, Wales where the smelters were located. Obviously only high-grade ore could be sent on this long, circuitous route to the smelters. In spite of this serious handicap, a number of mines in the district did manage to operate profitably on a small scale during the 1870s and 1880s. In 1893, however, silver prices crashed and all the mining operations throughout the district closed down for the next decade, except for a small amount of prospecting work (Winchell 1914; Sassman 1933; Geach 1972).

Development of the Elkhorn Mines and Mill

The Elkhorn lode was located by Mike T. Steele and F. W. Pahnish on October 24, 1873. A partnership was formed with Con Bray and Judge Meade and enough money was raised to build a small mill on the site. For the next two decades, small amounts of high-grade ore were mined and shipped to Swansea for smelting. But in 1893, the Elkhorn shut down, along with the district's other mines, after the disastrous drop in silver prices that year. By 1903, silver prices had recovered to a point where it seemed feasible to revive the Elkhorn mine. Tom Judge, while doing prospecting work on the Elkhorn Ledge, found a rich vein of silver ore and some interest was generated to reopen the mine; but financing was not sufficient to get the project underway. In 1906, Frank Felt bought a number of claims in the district and, along with M. L. McDonald and Donald B. Gillies, started a tunnel on the Idanha vein which eventually would become the major producing mine for the Elkhorn group. Two years later, in 1909, the tunnel would be further developed by the Park Mining Company which extended it to 748 ft (Sassman 1941; Wirtz and Lovell 1976).

Modern, large-scale development of the Elkhorn got underway in 1911 when William R. Allen, former lieutenant governor of Montana turned mining entrepreneur, became interested in the property and devoted his efforts to developing the Elkhorn mines on a scale which dwarfed anything attempted in the area before or since. Allen would be inextricably linked with the fortunes of the Elkhorn mine for the next 40 years. Although many others were involved in the development of the Elkhorn mine, Allen was the chief promoter and prime mover of the project from beginning to end. His personal career and fortune would be mirrored in the development and ultimate failure of the Elkhorn mine project.

Allen was born in July 1871 in the small mining area south of Anaconda, Montana known as French Gulch. He was educated in Deer Lodge County schools and then attended the Helena Business College. After graduating with honors from the college in 1891, he was hired by Marcus Daly to manage the Anaconda Company's electric light, sheet metal, railway and water works department. He also managed the Daly's lumber business, which was one of the major components of Daly's development of the Anaconda smelter complex. In addition, Allen maintained an interest in a number of mining claims his father had developed in the Anaconda area. Married twice, in 1893 and, following the death of his first wife, again in 1917, he raised seven children (Allen Papers 1903-1953; Patterson 1989).

Allen, a Republican, entered politics and was elected to the Montana House of Representatives in 1902 and served in the legislature until 1908 when he was elected lieutenant governor under Governor Edwin L. Norris. Although it seemed that Allen had a promising future in politics, in 1913 he resigned as lieutenant governor in order to devote all his efforts to the Elkhorn project. He demonstrated a talent for financial promotion and was able to interest financiers in London and Boston in the venture. He helped form the Boston-Montana Development Corporation in 1913 and became its president. The company was incorporated with $15,000,000 in capital stock. Allen spent $474,000 of his own funds to purchase the principal mining claims, including the Elkhorn, Blue-Eyed Annie, Park, Idanha, Central, Aspen, Red Top, Mono, Boston, Crotto, Homestake, Washington, and Blue Jay, which he then sold to the new corporation. In 1918, he reported to the stockholders that exploration work in the area justified buying additional mining claims adjacent to the Elkhorn properties and soon acquired the Mono, New Year, Thomas Paine, Montreal, Mary, Humboldt, Dell, Climax, Homestake, Modoc, Black Jack, Hazel, Ajack, Atlas, Washington, Ram, Evolution, Ucon, Robert Ingersoll, Robert Ingersoll #2, Jessie, Lincoln, and Bonanza. Eventually the corporation would acquire some 80 mining claims, covering 1600 acres (Figure 3). The company acquired all the claims in the area as part of a deliberate policy to avoid the type of situation like that which had once existed in Butte where conflicting adjoining claims led to endless litigation (Sassman 1941; Evans 1946; Minutes of the Annual Stockholders meeting, Boston-Montana Development Company 1918; BLM Plat map 5828).

Allen also formed the Boston-Montana Milling and Power Company to develop the mine and mill while another subsidiary - the Butte and Pacific Railway Company - was formed to construct a railroad line from the town of Divide on the Big Hole River to the mine (Sassman 1941; Geach 1972; Wirtz and Lovell 1976; Allen Papers 1903-1953; Patterson 1989).

At that time, extensive exploration work had already been underway on the various claims held by the Boston-Montana Development Corporation. Three tunnels had been driven on the Grotto claim, a 600-ft tunnel was run on a vein at the Aspen, two shafts were sunk on the Blue-Eyed Annie and cross-cuts were driven at the 200-ft level and shafts and tunnels were found on the Park, Elkhorn, Storm, Red Sky, Homestake, Ruby, Bonanza, Mary, Montreal, and Washington claims. The Idanha had a 900-ft tunnel with a 600-ft cross-cut and a double-track tunnel was started in October 1913. The Idanha, located just above the Elkhorn mill, would become the company's greatest producer (Sassman 1941; BLM Plat maps 9847A, 9847B, 9964).

Construction of the Rail Line and Mill

A wagon road had been built to the mines but it was obvious that a rail line would be needed. Preliminary work on the route was done in 1914 and heavy machinery for the mines was purchased but the outbreak of World War I delayed financing from the English backers. However, construction work on the railroad finally got underway in May of 1917. The line for the Montana Southern Railroad was run up the Big Hole River from Divide and then up the Wise River to the

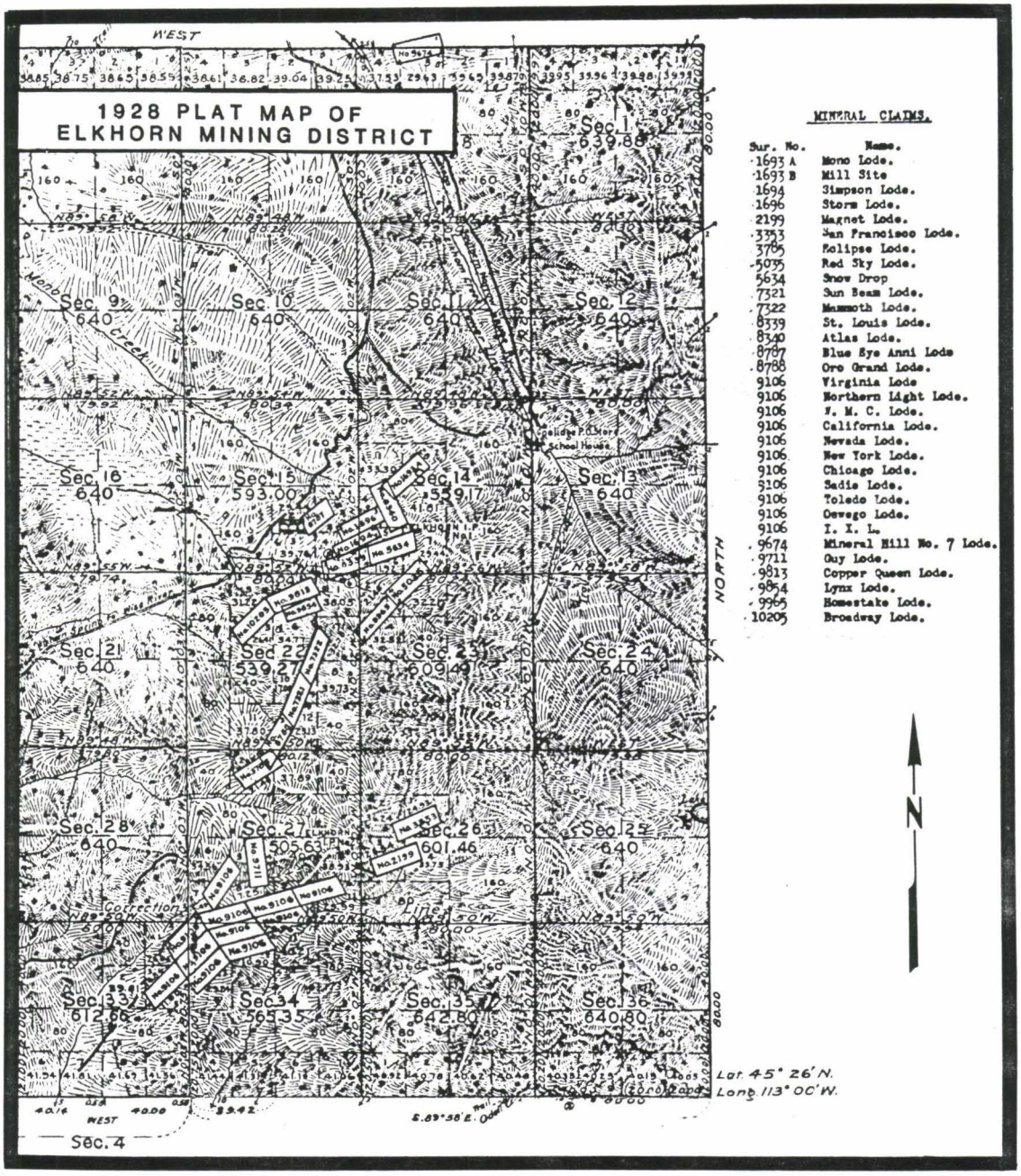


Figure 3. 1928 Plat map of claims in the Elkhorn mining district.November 20, 1989 mines. It was completed by December 1919 and was reported to have been the last narrow-gauge

railway built in the United States. The railroad was equipped with three Baldwin locomotives, 28 freight cars, three passenger cars, a machine shop, an engine house and depots at a total cost of $1,500,000 (J. R. Pelt, director of the Montana Bureau of Mines and Geology, in a letter to Mrs. Fannie Gold on August 9, 1954, put the figure considerably higher at $2,100,000) (Sassman 1941; Montana Bureau of Mines and Geology files on Montana mining properties; Wirtz and Lovell 1976).

With completion of the railroad, heavy equipment and materials for the mill could be transported to the mine site. Work on the mill was begun immediately and the construction of a 65,000-volt power line from Divide to the mine and Coolidge was begun. About $900,000 was spent on the construction of the mill, while another $150,000 was spent on the power line. Completed in 1922, it was the largest mill in Montana. It was equipped with steam heat, a sprinkler system, a 2500 cubic-ft air compressor, two crushers, two ball-mills, four classifiers, 16 concentrating tables, two settling tanks, two thickener tanks, a large filter and 52 electric motors to operate the mill's oil-flotation system designed by O. B. Hoffstrand. The system had the capacity to process 750 tons of ore per day with a recovery rate of 90 to 93 percent (Sassman 1941; Evans 1946: Mining Record 1981; Wirtz and Lovell 1976).

Most of the ore processed by the mill came from the Idanha tunnel at the 300 ft level, which was located at the upper camp 800 vertical feet above the mill. Ore from the Idanha could be lowered through the No. 1 raise to the lower tunnel at the 1000 ft level where it was hauled a quarter mile by electric rail cable cars to the mill. Ore from other shafts and adits at the upper camp was brought to the mill via a rail cable car system that ran down the mountain side from an ore bin at the upper camp to an ore bin a few yards north of the lower mine tunnel portal. The tramway employed a gravity system where loaded cars going down pulled the empty cars back to the top. The tramway had an unusual three rail track, except in the middle where the rails divided so the cars could pass each other. From the ore bin at the bottom, ore was transferred to the lower electric cable car tramway, which hauled it to the mill. No forced-air ventilation system was needed for the mine workings which were adequately ventilated by natural convection currents (Sassman 1941; Evans 1946; Wirtz and Lovell 1976).

Also located at the upper camp was a sawmill, three bunk houses, boarding house, six log cabins, cookhouse, stables, blacksmith shop, carpenter shop, hoist, and an ore sorting house (Evans 1946).

The Town of Coolidge

Construction of the major portion of the Coolidge mining camp was begun at the same time the mines were first extensively developed around 1914. Allen named the town after Calvin Coolidge who had become a friend of Allen's while Coolidge was still lieutenant governor of Massachusetts. Coolidge never visited his namesake but there were reports that he had invested in the mine. When work started on the mill in 1919, large number of workers and miners moved into the camp. Initiall, many of the miners lived in tents over board platforms. Later, more substantial log or board and tar paper residences were built (Sassman 1941; Wirtz and Lovell 1976; Patterson 1989).

A company store sold equipment to the miners, as well as food and other necessities to the community's residents. Below the store, there was a boarding house where many of the miners ate. For amusement, miners and townspeople could visit the pool hall, run by Elmer Ripley. There were no saloons in town but liquid spirits were said to have been available from a still located near the town. Skiing and sledding were popular pastimes during the winter (Wirtz and Lovell 1976).

Company offices, other boarding houses and bunk houses were also part of the community. The town was equipped with electric power and telephone service. Postmasters Frank H. Tyro and Evan L. Woolman ran the post office for 10 years, from 1922 to 1932 when it was closed. A school district was organized in October of 1918 to operate the school for the town's 20 or so school children until the early 1930s when the town's population declined to a point where a school could no longer be supported. Although the town had most of the amenities of other small communities, it did not have any churches. At its peak, Coolidge probably had a population of around 350. There apparently were no blacks, Chinese or other distinctive ethnic groups in town (Sassman 1941; Wirtz and Lovell 1976; Patterson 1989).

The Failure of the Elkhorn Project

An estimated $5,000,000 was spent by the Boston-Montana Development Company developing the Elkhorn mine project. At the start of 1922 it appeared the undertaking was about to fulfill the expectations of Allen and the other investors: the mill was a modern, efficient system ready to process the ores; the mine workings were well equipped and were being developed by experienced miners; the narrow-gauge railway was ready to haul the processed ore; and the high voltage line to power the mines and mill had been completed.

However, before the mill even went into production, serious problems began to appear. The economy had slowed down during the 1920-1921 depression and, to make matters worse, the company's bond and note issues, along with other financial obligations, came due during this same period. These debts and obligations probably could have been met if the mines and mill had been able to go into full production but it was discovered almost as soon as the mill went into production that the veins of ore were not developed enough to supply sufficient ore to keep the mill operating at even half its capacity. A decision was then made to mine low-grade ore as well as high-grade ore but even this move failed to produce adequate ore for the mill. Although 24,000 ft of underground workings were developed by 1925, it was not enough and the depressed economy prevented raising the necessary capital for mine development. Only one section of the mill's two parallel flotation systems was ever used and then only for three months in 1922-1923 and four months in 1925 (Sassman 1941; Evans 1946; Geach 1972; Krohn and Weist 1977).

Within a year after the mill started production, the company was placed under a stockholders receivership. In 1923 Charles S. Murphy, president of the Montana Mine Owner's Association and I. H. Brand of New York City were appointed receivers. The company was eventually able to liquidate its debts but was forced to seriously curtail its underground development program. In spite of this limited development, by 1927 some 120,000 tons of ore were blocked out to be mined, the ore bins were filled with 3,000 tons of ore and six cars of concentrates were ready for shipment from the mill. But then, the final blow in the series of misfortunes experienced by the company occurred in June of that year when a Montana Power Company dam on Pattengail Creek broke, flooding the lower Wise River valley and washing out 12 miles of the Montana Southern Railroad's tracks and several of the line's bridges across the Big Hole River. The line was repaired by 1930 but by then the Great Depression had begun and metal prices had declined to a point where it was not possible for the company to resume production (Sassman 1941; Evans 1946; Geach 1972; Wirtz and Lovell 1976).

The company was reorganized on May 17, 1933 as the National Boston-Montana Mines Corporation. In 1944, it became the Boston Mines Company but it was still unable to revive the operation and by the end of the 1940s most of the company's deeded properties were acquired by Beaverhead County in lieu of taxes. As head of the National Boston-Montana Mines Corporation, William Allen continued for the next two decades to try and revive the Elkhorn mines. Although he lost his

personal fortune in the enterprise, he continued to believe that the mines were a potential bonanza until his death in 1953 (Sassman 1941; Evans 1946; Geach 1972; Wirtz and Lovell 1976; Patterson 1989).

At their peak, the mine and mill employed 250 men, yet a total of only 26,000 tons of ore was mined from 1921 through 1924. Another 20,000 tons was produced in 1925 but from then on, only a few tons were mined sporadically during the years from 1935-1937, 1939, 1942, 1948 and 1953. Total production from the Elkhorn mines was 52,385 tons of ore and from that, 8,900 tons of concentrates were produced for shipment to smelters at Tooele, Utah and East Helena, Montana. The concentrates yielded 851,725 pounds of lead, 4,100 pounds of zinc, 370,799 pounds of copper, 180,843 ounces of silver and 1,013 ounces of gold. In 1949 the company reported the total production of the Elkhorn mines amounted to $375,000 (Sassman 1941; Trauerman and Reyner 1950; Geach 1972; Krohn and Weist 1977).

In 1981, the Elkhorn mines were bought by Timberline Minerals, Inc. who did some exploratory prospecting work on the site for the next three years. They reported that there was good potential for silver, as well as tungsten and molybdenum, but no significant production was reported during this period (Montana Bureau of Mines and Geology files on Montana mining properties).

The Elkhorn mine project is significant as an example of one of the few large-scale silver mining projects in Montana during the early part of the twentieth century. During this period, most mining operations in the region were small-scale operations which, for the most part, either reopened old mine workings or reworked old mine dumps. With the exception of Butte, where silver production was a by-product of the copper, zinc and manganese mines, the Elkhorn project was almost the only large-scale mining development during the 1920s designed solely for silver production. Even more significant, it is an example of how a project of this magnitude can fail even though it had large-scale investment, systematic development of the mines along with the processing and transportation facilities, use of the most modern equipment and techniques, and the existence of sizeable and proven ore deposits.

Even with these favorable conditions, the odds were against a successful operation. Historically in Montana, for every successful bonanza mine there have been perhaps a dozen mines that failed. The Elkhorn project serves as a case example of the fundamentally risky nature of any mining venture and the propensity for most mining ventures to ultimately fail. An element of luck, either good or bad, can often be a critical factor in the outcome of any mining operation. The 1927 Wise River flood illustrates the effects an unforeseen accidental event can have on an enterprise such as the Elkhorn project.

Ultimately, it was not bad luck that caused the failure of the Elkhorn enterprise, but bad planning. The remote and difficult location of the Elkhorn mines required large investments in the transportation, power and processing facilities but company leaders inexplicably did not adequately plan for the necessary amount of production to cover the costs of development. The large capital outlay for the development of the Elkhorn facilities thus proved to be a serious detriment to the success of the project. The usual sequence has been for a mine to conduct serious development operations and limited production in order to determine the extent and nature of the ore reserves and then to construct the necessary processing/transportation facilities to handle the mine's output. According to Harry J. Evans (1946) this was the original plan of action for development of the Elkhorn project. The intention was to extensively develop the intricate vein system which is characteristic of the Elkhorn area and then build a moderate size plant and proceed gradually with production. However, in 1917 Evans reported a change in management which led to the decision to greatly expand the mill and to build the railroad to the site. These projects, unfortunately, took precedence

over development of the underground workings.

This crucial error was realized as soon as the mill went into production and it was immediately obvious that the mines were unable to meet the capacity of the processing facilities. The project was left with a top-heavy capital outlay in equipment and facilities it was unable to finance, even though the veins of ore in the Elkhorn district were extensive and of a high grade. The company's shaky position was then further aggravated by the depressed economic conditions at a time when the company's many note and bond issues were coming due. These factors made it impossible to acquire the necessary capital to finance underground development, just when it was most needed. The company never recovered from this situation. No explanation has been offered for the company's failure to plan for and then develop the needed production from the mines. The company may have concentrated on developing the surface facilities in order to impress potential investors or perhaps the Elkhorn venture was simply a case, all-to-often seen in mining ventures, of wishful thinking getting the upper hand over objective analysis and sound planning. This was, of course, not the first time this had happened to a mining operation. Over fifty years earlier, J. Ross Browne, in his 1868 report on the mineral resources of the West, quoted a Professor A. K. Eaton who, in commenting on the high failure rate of western mines, stated that:

> ...the principal difficulty...has been the imperfect management of these different enterprises. One great error has been made by almost all. It has arisen from the over-sanguine belief that [ore] could be mined in quantity without preliminary expense in development. The mills are erected, the money and patience of the proprietors exhausted, and with untold wealth the machinery is left to rust and rot for want of ore. Today nearly every mill in the Territory could be worked most profitably by the expenditure of a few thousand dollars in the thorough opening of the mines belonging to them (Browne 1868:497).

SUMMARY, EVALUATION AND RECOMMENDATIONS

INVENTORY RESULTS

When Harry J. Evans examined the site in 1946, the town, mill and mines were still completely intact. He reported that the mill was still in excellent condition with most of the equipment still in place and ready to resume production. The mines were also still completely equipped and intact while the company's buildings in Coolidge were still in good condition and usable. Evans listed the company's surface assets as consisting of: the mill, the assay building, a two-story store, 21 dwellings, one boarding house, nine bunk houses and two pumphouse in the lower camp plus three bunk houses, six log cabins, a boarding house, a blacksmith shop, a carpenter shop, the hoist, a compressor building, a small mill and snow sheds at the upper camp. Evans estimated the total value of the Elkhorn/Coolidge properties at $100,000,000 (Evans 1946).

As late as 1975 the mill building was still intact and the lower camp sawmill, the railroad depot, a store, the pool hall, an ice house and a water tower adjacent to the mill were still standing although most of the site's structures were, at this point, showing seriously deterioration (Wirtz and Lovell (1976).

In the course of the October 1989 inventory of the Elkhorn/Coolidge historic district, 109 structures and 28 other features were identified, recorded and photographed. These are listed and described in the site form in Appendix A and shown on Exibit A site map. Photographs of selected structures are also included. The 109 structures include the buildings in Coolidge, the remaining mine buildings and the mill complex. Of these; 41 have totally collapsed, 39 are partially collapsed and 29 remain more or less intact. In other words, approximately 25 percent of the structures within the historic district remain reasonably intact. Other structures, including the railroad depot, lower camp sawmill, store, pool hall, ice house and water tower [shown by Wirtz and Lovell (1976) to still be standing in 1975] have completely disappeared while the lower half of the mill was demolished during salvage operations sometime in the late 1970s. It must also be assumed that an unknown number of other buildings, which were part of the historic town or mining operation, may have also disappeared.

The 28 features include structures (other than buildings), objects and miscellaneous items such as: tailings dumps, the Elkhorn ditch, four privy pits, two adits, a possible shaft, wagon parts, trash dumps, two bridges, railroad beds, a safe, roads, a loading dock, a transformer rack and various debris.

The site area was thoroughly examined for prehistoric cultural materials. In light of the seriously disturbed nature of much of the site area, the probability of the existence of prehistoric sites within the historic district was low. No evidence of any prehistoric cultural remains were found.

The site area was also examined for areas of potential subsurface historic cultural materials. The potential for important subsurface historic archeological remains appears to be low. The district was occupied for a relatively brief period of a little over a decade and its period of historical significance was also relatively recent, which would lessen the possibility of finding significant information through subsurface excavation. There was no evidence of any major buried dumps in the residential areas, although there are large areas where trash is scattered on the surface. Even if there were buried trash deposits, it would seem unlikely the material would differ significantly from that found on the surface. Nor would it be likely that the materials would provide important information not found in the historic record. Amateur bottle hunters have apparently dug in the privy pits but there are no indication of what, or if any, materials may have been found. There does

not appear to be any areas at the mill or the mine that would have the potential for important subsurface remains, other than the underground mine workings themselves. For obvious safety reasons, the mine's underground workings are features which can not be directly evaluated.

NATIONAL REGISTER ELIGIBILITY

In spite of the total or partial collapse of approximately 75 percent of the Elkhorn/Coolidge historic district's structures, the essential historic appearance and basic characteristic of the district still remain. The district's period of significance covers the two decades of the 1910s and 1920s and no major intrusive elements, which would detract from the site's historic character, have been added to the district since that period. The immediate setting of the district and the surrounding landscape are virtually unchanged from when the town was occupied and the mines and mill were in operation.

Although some of the shacks near the lower mine portal could be from more recent mining activities, it appears that virtually all the structures and features within the Elkhorn/Coolidge historic district are from the period of significance. No structures appear to have been moved onto the site at a later date, although some of the existing residences may have been altered somewhat by the handful of persons who have been said to have lived on the site in more recent times. Thus, it appears that all the structural remains within the Elkhorn/Coolidge historic district have integrity of location, setting, feeling and association. In this sense, all the structural remains contribute to the historic district, but they need to be classed into two categories. The structures within the Elkhorn/Coolidge historic district are either contributing buildings or contributing "sites" [see National Park Service 1985].

In terms of the requirements of the National Register, many of the structural remains have lost integrity since they have become ruins which can no longer convey their original historic identity. According to the NRHP, in order for a structure to be classed as a contributing building to a historic district it must possess integrity. In order to possess integrity, a building must be sufficiently intact and must have retained the essential physical features to convey its historical identity or character (National Park Service 1982). Under this standard, the following 54 structures could be classed as contributing buildings (even though some are partially collapsed) to the historic district: Nos. 1, 2, 4, 5, 8, 9, 10, 13, 15, 17, 19, 20, 25, 26, 27, 29, 30, 34, 38,40,41,44, 47, 48, 52, 53, 57, 60, 61, 62, 63, 64, 67, 72, 74, 80, 81, 87, 89, 91, 92, 93, 94, 95, 96, 97, 98, 100, 101, 103, 105, 106, 108 and 109.

The remaining structural elements are ruins which no longer convey their historic identity and, therefore, they can not be classified as contributing buildings. However, these ruins can be classified as contributing "sites" to the historic district (National Park Service 1985:4). [Although the National Park Service's Bulletin 14 uses the term "sites" this is confusing; therefore, "contributing ruins" will be used instead in this report.] Fifty five structures are classed as contributing ruins. These include structures Nos.: 3, 6, 7, 11, 12, 14, 16, 18, 21, 22, 23, 24, 28, 31, 32, 33, 35, 36, 37, 39, 42, 43, 45, 46, 49, 50, 51, 54, 55, 56, 58, 59, 65, 66, 68, 69, 70, 71, 73, 75, 76, 77, 78, 79, 82, 83, 84, 85, 86, 88, 90, 99, 102, 104 and 107.

The 28 miscellaneous features also contribute to the historic district since they are part of the overall complex.

Even though the structural remains within the Elkhorn/Coolidge historic district are, with a few exceptions, badly deteriorated, the site is perhaps the most intact and complete mine and mining camp site remaining in Montana. The fact that the mine, mill and town were kept in operating order up to the mid-1940s has meant that the processes of natural deterioration have had less effect than

older abandoned mine sites. The isolated setting of the Elkhorn/Coolidge historic district and the fact that relatively little modern mining has taken place on the site has meant that almost no intrusive modern elements have been introduced into the historic district. The district retains more of its historic appearance and character than perhaps any other historic mining camp in the region and, therefore, still has sufficient integrity to qualify it for listing on the National Register of Historic Places. The Elkhorn/Coolidge historic district is recommended as eligible for listing on the NRHP as a historic district under Criteria A, B and D.

The historic district qualifies under Criterion A because it was a significant historic development within the context of mining history in Montana during the early twentieth century. It was one of the region's few large-scale silver mining developments during this period and was also significant as a case example of why a large-scale mining developments often failed. The project was significant on a local level as the largest mining development project in the history of Beaverhead County.

The site qualifies for consideration to the NRHP under Criterion B because of its association with William R. Allen. Allen was elected to the Montana legislature in 1902 as a Republican. He served in the House of Representatives until 1908 when he was elected to the office of lieutenant governor. He resigned the office in 1913 in order to devote all his efforts to promoting the Elkhorn mine project. He became the most important figure in the development of the enterprise and became a figure of major importance in Montana mining circles. He was also a friend of Calvin Coolidge (who was rumored to have invested in the project) and was associated with Boston financial interests.

The site does not qualify for the NRHP under Criterion C. Neither the town site nor the mill and mine facilities embody any distinctive characteristics which would merit consideration for the NRHP under this criterion. The structures remaining in the town site do not exhibit any distinctive architectural, artistic or design characteristics while the mill is a standard design for this type of facility and the mill process apparently did not utilize any unique or innovative engineering or processing techniques.

The Elkhorn/Coolidge historic district is also recommended as eligible under Criterion D since a site of this magnitude would have a number of areas with the potential to provide additional information. Mining procedures and construction techniques used in the building of the mill and transportation systems are possible sources of additional information. Although the probability of significant subsurface cultural materials is rated as low, there is the possibility that buried deposits have the potential to provide information on daily living conditions for the mine and mill workers.

POTENTIAL IMPACTS TO THE SITE

The Montana DSL, through its Abandoned Mines Reclamation Division, plans to reclaim two areas on the site where mine tailings are a serious source of pollution to the ground water which flows into Elkhorn Creek, which in turn flows into the Wise River and ultimately into the Big Hole River.

Reclamation plans for the south tailings (Feature #26) at the lower adit portal (Structure #91) will involve extensive alterations to this portion of the site. The tailings will be graded to new contours. All wooden structures and debris within the tailings construction area will be removed. These include: Structures Nos. 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95 and 96. A segment of the southern portion of Structure 97 will also most likely be removed. Features #14, 19, 20 and the southern portion of Feature 22 will be removed. The adit portal will be modified with new steel plate doors. Two wetland treatment ponds, covering an area approximately 550 ft by 100 ft, will

be constructed at the base of the east side of the existing tailings. Eight-inch PVC pipes will be installed to carry water from the mine entrance to a concrete diversion box where it will be diverted to the wetland treatment ponds. Two riprap splash pads will be constructed on the west bank of Elkhorn Creek where water will exit from the treatment ponds and a total of 350 ft of riprap, in two sections, will be installed on the west bank of the creek downstream from the splash pads.

At the north end of the site, the tailings area at the base of the mill (Feature #27) is also slated for extensive reclamation work. The tailings will be removed and relocated to the south tailings area. All wooden structures and debris will be removed from the reclamation area at the base of the mill. These include: Structures #105 and #106 and Features #23 and #24. Debris from the demolished lower half of the mill will be removed but the still standing upper portion of the mill will not be impacted. Following reclamation work, the area will be graded and revegetated.

The reclamation work will have a significant impact on the site. The historic appearance of the tailings will be altered by either removal or by grading to new contours followed by revegetation. Structures and debris will also be removed. However, in spite of these alterations, the essential integrity of the historic district will be retained. The structures slated for removal at the south tailings area are nondescript, wood frame shacks of minimal historic value, except for the ore bin (Structure #97) at the base of the tramway. Eight of these structures were classed as contributing buildings, while five were classed as contributing ruins. The two structures to be removed at the mill site tailing area were classed as contributing buildings but are also of marginal historic significance and one is partially collapsed.

No reclamation work is planned by the DSL on the east side of Elkhorn Creek and none of the structures in the residential area of Coolidge will be disturbed.

RECOMMENDATIONS

Although two areas within the historic district will be impacted by reclamation work, the necessity of reclaiming the tailings in order to mitigate the serious water pollution on the site should take precedence over the historic values which may be lost. The structures scheduled to be removed are not of major historical significance, except for the ore bin (Structure #97) at the base of the tramway and it is not of any unique design or exibits any special engineering features. The structures have been recorded and photographed and no further work is recommended.

If, during reclamation work, unrecorded or subsurface cultural materials are encountered, work on the site should be stopped and the Forest Supervisor of the Beaverhead National Forest should be notified immediately.

BIBLIOGRAPHY

Allen, William R.
1903-1953 Personal Papers. Manuscript Collection 105. Montana Historical Society Library, Helena.

1949 Chequemegan. William Frederick, publisher.

Allen Company Annual Report
1914-1925 Manuscript Collection, Box 2:13. Montana Historical Society Library, Helena.

Allen Company Annual Meeting
1913 (July 22, 1913) Manuscript Collection, Box 2:14. Montana Historical Society Library, Helena.

Anderson, Paul
1984 Cultural Resource Inventory and Evaluation for Elkhorn Mine Historic District. Prepared for the Montana Department of State Lands, Helena by GCM Services, Inc., Butte.

Beebe, Lynn A.
1979 Standard for Evaluating Structures within Registered Historic Districts. Heritage Conservation and Recreating Service.

Berthold, Mary Paddock
1970 Turn here for the Big Hole. Harlo Press, Detroit.

Billington, Ray Allen
1960 Westward Expansion: A History of the American Frontier. The MacMillan Company, New York.

Boston-Montana Development Company
1913, 1915, 1918 Company Papers. Manuscript Collection, Boxes 3:8 & 3:16. Montana Historical Society Library, Helena.

Browne, J. Ross
1868 Report of J. Ross Browne on the Mineral Resources of the States and Territories West of the Rocky Mountains. Government Printing Office, Washington, D.C.

Burlingame, Merrill G.
1942 The Mining Frontier in Montana. The Montana Past: An Anthology, edited by Michael P. Malone and Richard B. Roeder.

Chittenden, Hiram Martin
1954 A History of the Fur Trade of the Far West. Academic Reprints, Stanford.

Cushman, Dan
1973 Montana - The Gold Frontier. Stay Away, Joe Publishers, Great Falls, Montana.

Davis, Jean
1962 Shallow Diggin's. The Caxton Printers, Caldwell, Idaho.

DeVoto, Bernard
1953 The Journals of Lewis and Clark. Houghton Mifflin Co., Boston.

Dick, Everett
1941 Vanguards of the Frontier. University of Nebraska Press, Lincoln.

Evans, Harry J.
1946 Report of the Mining Properties of the Boston Mines Company, Beaverhead County, Montana. Unpublished report to Marvin E. Walker, Baltimore. Montana Bureau of Mines and Geology's files of Montana mining properties, Montana College of Mineral Science and Technology, Butte.

Geach, R. D.
1972 Mines and Mineral Deposits (Except Fuels) Beaverhead County, Montana. Bulletin 85. Montana Bureau of Mines and Geology. Montana College of Mineral Science and Technology, Butte.

Hamilton, James McClellan
1957 From Wilderness to Statehood: A History of Montana. Binfords and Mort, Portland, Oregon.

Harper, Frank B.
n.d. Fort Union and Its Neighbors on the Upper Missouri. Published by the Great Northern Railroad.

Krohn, Douglas H. and Margaret Mlynarczyk Weist
1977 Principal Information on Montana Mines. Montana Bureau of Mines and Geology Special Publication 75. Montana College of Mineral Science and Technology, Butte.

Malone, Michael and Richard Roeder
1976 Montana - A History of Two Centuries. University of Washington Press, Seattle.

Miller, Don C.
1974 Ghost towns of Montana. Pruett Publishing Company, Boulder, Colorado.

Mining Districts of Beaverhead County
n.d. Compiled under Federal Emergency Reief Act Projects No. 8 F4-82 (unpublished). Montana Bureau of Mines and Geology's files of Montana mining properties, Montana College of Mineral Science and Technology, Butte.

Mining Record
1981 May 20, 20(93).

Montana Bureau of Mines and Geology
n.d. File of Montana mining properties. Montana College of Mineral Science and Technology, Butte.

Montana Fish and Game Commission
1975 Montana Historic Preservation Plan and Historic Sites Compendium. Montana Recreation and Parks Division, Helena.

Montana State Bureau of Mines and Metallurgy
1919 Directory: Montana Metal and Coal Mines. University of Montana Bulletin No. 2. State School of Mines, Butte.

National Park Service
1982 How to Apply the National Register Criteria for Evaluation. U.S. Department of the Interior, Washington, D.C

1985 Guidelines for Counting Contributing and Noncontributing Resources for National Register Documentation. National Register of Historic Places Bulletin 14. U.S. Department of the Interior, Washington, D.C.

1987 Guidelines for Completing National Register of Historic Places Forms. National Register Bulletin 16. U.S. Department of the Interior, Washington, D.C.

n.d. How to Identify, Evaluate, and Register Rural Historic landscapes. National Register Bulletin 30. U.S. Department of the Interior, Washington, D.C.

n.d. Guidelines for Evaluating and Documenting Cultural Properties under National Register Criterion B. National Register Bulletin 32. U.S. Department of the Interior, Washington, D.C.

Newspaper Editors of Montana (compiled by)
1914 A Newspaper Reference Work: Men of Affairs and Representative Institutions of Montana, 1914. Butte.

Patterson, Elizabeth (daughter of William R. Allen)
1989 Personal communication. November 2 and 10. Butte, Montana.

Payne, Gene F.
1973 Vegetative Rangeland Types in Montana. Montana State University Bulletin 671. Montana State University, Bozeman.

Raymond, Rossiter W.
1877 Statistics of Mines and Mining in the States and Territories West of the Rocky Mountains being the Eighth Annual Report of Rossiter W. Raymond, United States Commissioner of Mining Statistics. Government Printing Office, Washington, D.C.

Sassman, Oren
1941 Metal Mining in Historic Beaverhead. Unpublished M.A. thesis, Montana State University, Bozeman.

Smith, Duane A.
1967 Rocky Mountain Mining Camps. University of Nebraska Press, Lincoln.

Stuart, Granville (edited by Paul Phillips)
1925 Prospecting for Gold from Dogtown to Virginia City 1852-1864. University of Nebraska Press, Lincoln.

Thwaites, Ruben Gold1904
Original Journals of the Lewis and Clark Expedition 1804-1806. Vol. 2. Dodd, Mead and Company, New York.

Toole, K. Ross
1959 Montana: An Uncommon Land. University of Oklahoma Press, Norman.

Trauerman, Carl J. and Millard L. Reyner
1950 Directory of Montana Mining Properties: 1949. Montana Bureau of Mines and Geology Memoir No. 31. Montana School of Mines, Butte.

Travel Montana with John Willard
1963 The Montana Motorist, July, pg. 3.

United States Department of Interior
n.d. Bureau of Land Management Mineral Survey Records, Butte, Montana.

Winchell, Alexander N.
1914 Mining Districts of the Dillon Quadrangle, Montana and Adjacent Areas. United States Geological Survey Bulletin 674. U.S. Government Printing Office, Washington, D.C.

Wirtz, Shirley and Lorene Lovell
1976 One Man's Dream: Elkhorn Mine - Coolidge, Montana. Ashton Printing, Butte, Montana.

Wolle, Muriel Sibell
1963 Montana Pay Dirt. Sage Brooks, Denver.

Work Projects Administration Mineral Resources Survey
1940 Directory of Montana Mining Properties. Montana Bureau of Mines and Geology Memoir No. 20. Montana School of Mines, Butte.

APPENDIX I

Table of DSL Mine Reclamation Sites

File #:_____

CULTURAL SITE RECORD

Elkhorn/Coolidge Historic District (24BE997)

FIELD #:

STATE #:

MAP: USGS Elkhorn Hot Springs, Montana, 7.5', 1988 (provisional edition).

AERIAL PHOTO:

COUNTY: Beaverhead

CONTOUR: 7400 ft - 7550 ft Msl

MERIDIAN:

T4S, R12W	SE1/4 SE1/4 & SE1/4 NE1/4 SE1/4 Section 11 W1/2 SW1/2 SW1/4 Section 12 W1/2 NW1/4 Section 13 E1/2 NE1/4 Section 14

U.T.M.G.: Zone 12; 340400 to 340800mE/5038900 to 5040000mN

LAT./LONG.: 113° 02' 20" W Long/45° 29' 30" N Lat.

SITE LOCATION: The Elkhorn/Coolidge historic district is located about 50 miles southwest of Butte, Montana on the west side of the Pioneer Mountain Range. The site is situated in a narrow north/south trending valley which forms part of the upper drainage for the Wise River. Elkhorn Creek flows through the site to the north into the Wise River which, in turn, flows northward into the Big Hole River. The terrain is mountainous and heavily forested with Tweedy and Barb mountains (11,154 ft and 10,497 ft) located four to five miles to the east and Comet and Saddleback mountains (10,212 ft and 10,118 ft) two miles to the south of Coolidge.

ACCESS: Turn south off Montana highway 43 at the town of Wise River onto the paved road which follows the Wise River up the valley. Travel south for about 20 miles. A half mile past the Mono Creek Campground, a road heads southeast and will be marked by an Elkhorn/Coolidge sign. Continue southeast for about three more miles as the road follows Elkhorn Creek. Signs will direct one to the site. The road will terminate at a parking area and gate. Walk past the gate for one quarter mile to the site area. The site may also be approached from the south. Take the road heading north from State Highway 278 along Grasshopper Creek. Stay on the road for about 20 miles, past Polaris, the Elkhorn Hot Springs, and Crystal Park area to the Mono Creek turnoff and then proceed as indicated above.

SITE DESCRIPTION: The site area consists of a historic district comprising the remains of the Elkhorn mine and mill and the townsite of the Coolidge mining camp. The mine, mill and townsite resulted from one of the area's largest mining development during the 1910s and 1920s. Although the first mine was located at the site in 1873 and produced small amounts of profitable

silver ore until the early 1890s, it was during the period from the 1910s through the 1920s that large-scale development of the mining property was promoted by former Lieutenant Governor William R. Allen. A road and narrow-gauge railroad were constructed to the mine, connecting it to the towns of Wise River and Divide on the Big Hole River. Telephone and power lines were run from Divide to the mine and town site. A large ore processing mill, lumber mills, tramways and other mine structures, as well as the town of Coolidge, were constructed on the site. Although many of the site's structures have collapsed, are in ruins, or have disappeared altogether, much of the original historic character of the site remains. Half of the mill still stands and over 100 structural remains are found on the site. The mine and mill complex is located on the bench area west of Elkhorn Creek while, on the opposite side of the creek, the town of Coolidge lies in a narrow strip of flat ground between the stream and the steeply rising hillside immediately to the east. The mountainous, heavily forested terrain surrounding the site remains unchanged from the site's historic period.

SITE TYPE: Historic district consisting of a silver mine, mill site and town site.

DIMENSIONS: 3500 ft x 1200 ft x 3500 ft x 1000 ft

ESTIMATED AREA: 3,850,000 ft^2 (1,173,480 m^2)

METHOD USED TO DETERMINE SITE EXTENT AND BOUNDARIES: The site boundaries were defined by the historic limits of mining activities and residences in the town site. The upper Elkhorn mining camp (located on the peak just west of the lower mine/mill/town site and connected to the lower mine area by a cable car tramway) has been determined to be a separate site and is not included within the Elkhorn/Coolidge historic district. Although other small prospect mining operations, logging activities or other small-scale activities may have occurred outside the boundaries of the district, there is very little visible evidence of such activities in the immediate vicinity of the district. Virtually no subsequent intrusive elements were added to the district since it's period of significance; thus, the existing historic structural remains of the Elkhorn mine and mill and the Coolidge town site clearly delineate the extent of mining and residential activities within the historic district during the period of significance.

The boundaries of the site are defined by the following UTM coordinates which mark the corners of the district:

NE	zone 12	340750E	5039980N
SE		341050E	5038900N
SW		340750E	5038780N
NW		340300E	5039820N

DEPTH OF CULTURAL DEPOSIT: Not tested. The potential for significant subsurface cultural materials on the site appear to be low.

DESCRIBE METHOD USED TO DETERMINE DEPTH: NA

BIOTIC SETTING: Lodgepole pine-Douglas fir forest (Payne 1973).

COMMON ON-SITE VEGETATION: Lodgepole pines, Douglas firs, willows, Rose spiraea, grasses.

SURROUNDING VEGETATION: Lodgepole pines and Douglas firs.

LOCAL FAUNA: Moose, deer, elk, squirrels, mice, etc.

CULTURAL GEOLOGY: N/A

LANDFORM SETTING: Narrow, high mountain valley.

EXPOSURE TO SUN: N/A

EXPOSURE TO PREVAILING WIND: N/A

NEARBY WATER: Elkhorn Creek runs through the middle of the site area.

SITE MODIFICATIONS: The structural remains on the site have been severely impacted by weather, natural deterioration, vandalism and salvage operations. Heavy accumulations of winter snows have collapsed a majority of the roofs of the town's residences. Many of the walls of the town's frame structures have also collapsed. The sketch map in Wirtz and Lovell (1976) shows a number of buildings, including a store, "Ripley's pool hall", a railroad depot, a sawmill, an ice house and a water tower, which have disappeared. The structures may have been salvaged since no significant ruins or debris was observed at the locations of these structures. The lower half of the mill was destroyed by salvage operations during the late 1970s and the remaining upper half is deteriorating due to weather. As late as 1946, the mill was still in excellent condition with the machinery in place and ready to resume production. The mines were ready to go into operation and the company's buildings were intact and useable. But when the mines did not reopen, all the mill's heavy machinery was removed and the building was allowed to deteriorate, as were the site's other structures. All the tracks of the Montana Southern railroad were torn up and sold for scrap sometime during this same period. Since originally examined in 1982, the roof on the remaining portion of the mill has partially collapsed. The nearby assay office has also suffered serious deterioration since 1982.

Vandalism has also impacted the site. Many of the frame-construction structures appear to have been stripped of weathered boards and, in some cases, entire buildings were torn down for the lumber. Nearly all the privies have been overturned, presumably by amateur bottle hunters who may have been digging in the pits.

Recent mining activities have also modified the site to an unknown extent. Wirtz and Lovell (1976) report that an unknown number of historic structures were torn down for salvage materials during exploratory mining operations in the early 1970s. Intermittent occupation of structures in Coolidge since the Elkhorn mine was originally closed has also had an unknown impact on the site. Structures may have been altered and others salvaged for materials since the town's period of historic significance (Patterson 1989).

Miller (1974) states that a tornado devastated a half mile-wide swath on the outskirts of Coolidge but he does not make it clear whether this occurred during the site's historic period or more recently. In either case, no evidence for such an event was seen near the town.

PREVIOUS STUDY:

Anderson, Paul
1984 Cultural Resource Inventory and Evaluation for the Elkhorn Mine Historic District. Prepared for the Montana Department of State Lands, by GCM Services, Inc., Butte.

Evans, Harry J.
1946 Report of the Mining Properties of the Boston Mines Company, Beaverhead County, Montana. Unpublished report to Marvin E. Walker, Baltimore. Montana Bureau of Mines and Geology's files of Montana mining properties, Montana College of Mineral Sience and Technology, Butte.

Sassman, Oren
1941 Metal Mining in Historic Beaverhead. Unpublished M.A. thesis, Montana State University, Bozeman.

Winchell, Alexander N.
1914 Mining Districts of the Dillon Quadrangle, Montana and Adjacent Areas. United States Geological Survey Bulletin 674. U.S. Government Printing Office, Washington, D.C.

Wirtz, Shirley and Lorene Lovell
1976 One Man's Dream: Elkhorn Mine - Coolidge, Montana. Ashton Printing, Butte, Montana.

ARTIFACTS: A considerable amount of trash is scattered on the surface behind the row of residences on the east edge of the site. Most of the trash consists of rusted cans. Included were numerous condensed milk, lard, sardines, Edwards and MJB coffee, Oscar Mayer Wieners, Great Falls Select beer, cornbeef, and assorted fruit and vegetable cans. Scattered pieces of purple, brown and clear glass are also found throughout the site. No artifacts were collected.

HISTORIC FEATURES:

The cultural remains within the Elkhorn/Coolidge historic district were divided into two types: structures and features which are numbered separately. Structures include buildings or ruins of buildings while features comprise all other objects or elements such as depressions, tailings, debris, etc. (Exibit A).

[Note: all structures were built with round nails and all log structures were constructed of lodgepole pines.]

Structures

Structure No. 1 - the partially collapsed ruins of a one-story rectangular shaped dugout. The dugout is 12 logs high and measures 12 ft x 17 ft 2 in long. Log slabs are underneath rough cut lumber on the gable roof which has four purlins. The front entrance faces SE and is 3 ft 6 in high by 2 ft 6 in wide and is board framed. The dugout rests on a foundation of 2 x 8 in boards. There is no remaining chinking or daubing. A metal pipe is among the debris at the top of the collapsing roof. The average diameter of the logs is 7 in and they are saddle notched with sawed ends.

Structure No. 2 - a log cabin with a collapsed roof. The building is nine logs high, measuring 20 ft 3 in x 16 ft 6 in. The logs are saddle notched and have an average diameter of 8 in with sawed ends. A grass and mortar daubing with pole chinking is used between the logs. The approximate 30° gable roof has collapsed but was constructed with rough cut lumber, covered with rolled asphalt. The top loft has screened windows at the gable ends. The front door faces SW with one window opening. Another entrance is on the NE side and another window is on the NW end. The building sits on a stone foundation.

Structure No. 3 - the totally collapsed remains of possibly two wood frame structures with

board siding. The remains cover an area of approximately 25 ft by 45 ft with a 3 ft gap in the middle. A floor of 1 x 8 in boards rest on a log foundation. Tin debris and a stovepipe were among the ruins.

Structure No. 4 - a chicken coop measuring 8 ft 4 in wide and 10 ft 2 in long constructed of rough-cut boards. The entrance is at the SW side and has the remains of a wood stairway. A small window is on the NE side.

Structure No. 5 - a small wood frame cabin with board siding, measuring 10 ft 4 in wide and 12 ft 4 in long which rests on a log foundation. The outer wall were once covered with tar paper while the gable roof was covered with rolled asphalt. The entrance faces NW and there are windows on the front, rear and SE sides. Electric insulators are attached to the front gable end.

Structure No. 6 - the remains of a privy.

Structure No. 7 - the totally collapsed remains of a wood frame building with board siding, measuring approximately 12 x 15 ft.

Structure No. 8 - a 13 x 15 ft log structure. The roof has totally collapsed and the walls have partially collapsed. The roof appears to have originally been a gable type. Seven logs with pole chinking and dirt daubing still stand. The logs have sawed ends and are saddle-notched and average 8 in in diameter. The entrance is on the east side and windows were on the east and south sides. The structure rests on a board foundation.

Structure No. 9 - a 12 ft 4 in x 20 ft 8 in frame structure with shiplap board siding and a shed roof. The entrance is on the east side while window openings are on the east, south and north sides. Windows appear to have once been screened. Corrugated metal roofing once covered the roof over rough-cut lumber. The structure sits on railroad ties.

Structure No. 10 - a small spring house. The 3 ft 1 in x 5 ft 4 in frame structure has a gable roof and board siding. Diamond pattern mesh screen is over the windows and the entrance faces west. The structure sits over a small spring which filled an interior wooden tank where food items were probably kept in the summer to keep them cool.

Structure No. 11 - an almost totally collapsed frame structure with shiplap siding. Only the rear wall is partially standing. The structure apparently once had a second wall one foot from the inside wall. A section of this outer wall can be seen at the rear. The entrance once faced the SW. The approximate size of the building was 14 ft x 16 ft.

Structure No. 12 - is a two-hole privy. The frame structure is 8 ft 2 in wide and 5 ft 3 in long. It is constructed of rough cut lumber with a shed roof.

Structure No. 13 - was originally a stable. The stable consists of two attached structures. The northern section is a one-story, gable roof (with an approximate 45° slope), wood frame structure with no foundations. The roof is covered with sawed boards and the siding is half log. Board and batten siding is at the north gable end. A square, wooden vent is located centrally. The purlins are log. Another board roof was laid over the original roof covering with the first made of halved logs and small poles supported by log purlins with log supports. Two doors are located on the west side. Part of the north side is log which is V-notched. Cement and sand were used as daubing and small poles were used for chinking. On the east side the siding is seven half logs high. The floor is sawed boards

and the interior has been divided into four sections using logs, poles or boards.

The south section of the structure also has a gable roof with an approximate 45° slope. The roof was constructed of small poles supported by log purlins. Another roof of sawed boards was apparently built over the original sometime later. Most of the siding is gone, leaving the section open. The floor is made of small poles laid next to each other and there is no visible foundation. The dimensions of the structure are: 17 ft 4 in x 38 ft for the north section and 17 ft 2 in x 30 ft 7 in for the south section.

Structure No. 14 - a completely collapsed structure which may have been a carpenter's shop. Part of a gable end of the roof indicated a board and batten siding was used. It appears that the structure was of wood frame construction with a board floor and no foundation. The approximate dimensions were 25 x 35 ft.

Structure No. 15 - a rectangular, gable roof, wood frame, two room cabin with no foundation. The approximate 50° slope roof is made of sawed boards covered with rolled asphalt. The chimney hole is on the north slope of the roof. Siding is board and batten. Two window openings and a door opening with a small wood stoop are on the west side. On the south side, the building is held off the ground by vertical square posts. Three window openings are also on this side along with sawed board skirting. Another door opening is on the east and two window openings are on the north. Skirting on the north is tar paper held in place with boards. Electric insulators are on the front gable. A small board-lined subsurface feature is adjacent to the north side of the house and may be the remains of a root cellar. The house measures 16 ft x 27 ft 9 in.

Structure No. 16 - a completely collapsed wood frame structure. No foundation is evident and it appears that vertical board siding was used. The approximate size of the building was 12 x 25 ft.

Structure No. 17 - this small (9 ft x 14 ft) rectangular, one-story, wood frame structure had a gable roof and no foundation. Most the roof boards are missing but the chimney opening can be seen on the south slope of the roof. The siding is board and batten and there is a wood floor. A door is located at the west end and a window opening is on the east. The cabin is divided into two sections.

Structure No. 18 - a collapsed, wood frame cabin. The cabin had no foundation. It appears to have had a gable roof and a chimney hole can be seen in a section of the collapsed roof. The siding was board and batten. The approximate dimensions were 9 x 12 ft.

Structure No. 19 - a one-story, wood frame cabin with a gable roof. There is no foundation. The roof boards are covered with tar paper and the siding is horizontal planks. The west end of the building is raised off the ground and supported by square posts. On the north side, there is part of the board and batten siding with tar paper underneath. A wood floor is visible even though the roof has partly collapsed. A door opening and two window openings are on the east. Two more window openings are on the north and one is on the west side. Two door openings are on the south. The chimney hole is on the south slope of the roof. The cabin measures 16 ft x 24 ft, 3 in.

Structure No. 20 - a pump house. The frame building has shifted off its foundation and is now partially in Elkhorn Creek. It is square in shape (measuring approximately 12 x 12 ft) with a gable roof. A square, gable roofed cupola is on the center roof crest and was probably used to ventilate the building. Siding is board and batten and a row of insulators

is located on the north side. The door is on the east side.

Structure No. 21 - a collapsed frame structure with only part of the floor remaining. The foundation was square beams. The approximate size of the building was 22 x 22 ft.

Structure No. 22 - a collapsed, wood frame structure. There is no foundation but the board floor remains. A partial wall on the east side has board and batten siding. The structure measured approximately 25 x 25 ft.

Structure No. 23 - a collapsed, wood frame structure with only the floor remaining intact. The structure rests on wood beams and measured approximately 25 x 30 ft.

Structure No. 24 - a collapsed privy of wood frame construction with vertical board siding. The privy measures 3 x 3 ft.

Structure No. 25 - a shed roof, wood frame pump house which sits adjacent to Elkhorn Creek. The 7 ft 8 in x 10 ft shed has horizontal plank siding and no foundation. A door opening is on the southeast side and a window opening is on the southwest side.

Structure No. 26 - a three-sectioned structure which is part log and part wood frame construction. The southeast section has mostly collapsed but part of the vertical log wall at the south end still remains. The roof has collapsed but appears to have been a gable type and was made with boards. Part of a stove pipe is lying near the east end in the rubble. No foundation could be seen. An entryway is still standing on the south side. This section was approximately 35 x 35 ft and was connected on the west side to a log structure adjacent to the road. The logs are square notched, sawed on the ends, and not peeled. Small poles were used for chinking. The board roof is supported by log purlins and covered by thick sod. A board fence was built around the south and west sides about one foot from the log wall. This space was then filled with soil to provide additional insulation. One window opening is on the south and two are on the west side and another opening is on the east side. The floor is made of sawed boards and no foundation was visible. The log section measures 25 x 40 ft.

The door on the north side of the log section connects to another section, which consists of a partially collapsed wood frame addition. The north gable end wall of the addition is still standing, although the roof has collapsed. The gable end wall has board and batten siding. Most of the vertical board siding in this section is gone. A large stovepipe is located at the north end of this section and a crumbling brick wall, probably a cooking area, is in the middle of the frame addition. A window opening is on the north and a door opening is on the east. The floor is constructed of sawed boards. No foundation was seen but a small section of a stone retaining wall is on the east side. This frame section measured approximately 25 x 35 ft. Large piles of debris are at the north and east sides of the frame addition and may have been additional structural elements.

Structure No. 27 - a square, gable roofed cabin of wood frame construction. The roof is covered with boards with a chimney hole located on the north slope. The cabin was sided with boards and batten, although much of the siding has been removed. A window opening is on the south and a door opening is on the west. There is no foundation under the 15 x 15 ft cabin.

Structure No. 28 - a toppled, 2-hole, wood frame privy. The roof and sides are board and batten. The privy measures 3 ft 6 in x 3 ft 6 in.

Structure No. 29 - a partially collapsed pole and board structure which appears to have

been a pig pen. A fenced area on the west is made of both poles and boards. An opening is located at the north and south ends with a log fence separating the two areas. The fences have partly collapsed. The shed roof was supported by log purlins. The 14 x 16 ft shed has no foundation.

Structure No. 30 - A shed roofed, wood frame privy with half pole and half board and batten siding.

Structure No. 31 - the structural remnants of a wood frame structure which once measured approximately 12 x 15 ft. Stove parts and wood debris are scattered over the area.

Structure No. 32 - the collapsed remains of a wood frame structure. The floor is intact and measures 15 x 30 ft. Part of the board and batten sided north wall remains standing. The roof appears to have been a gable-type. There was no foundation.

Structure No. 33 - a collapsed, wood frame structure which may have been a company office and the town post office. The building was approximately 8 ft 6 in x 12 ft and apparently had no foundation. The gable roof was covered with tar paper.

Structure No. 34 - a partially collapsed, 2-story, wood frame building which was approximately 35 x 40 ft with a 10 x 15 ft addition at the rear. The roof was a gable-type and the siding is board and batten. There is a raised board porch on the front. The front door and two window openings are on the front side while an additional door is on the south side. A door at the rear (east side) opens into a partially collapsed shed roof addition which is also frame construction with horizontal board siding. No foundation was seen for the structure. The building may have been a hotel.

Structure No. 35 - a toppled, 2-seat privy with tar paper covered board gable roof. Siding is vertical boards. A wooden, square vent pipe is located at the back and diamond shaped windows are located at each gable end. The privy measures 5 x 6 ft.

Structure No. 36 - a partially collapsed, wood frame structure located at the rear of Structure No. 34. A partial foundation was of stones under the west wall. The structure measures approximately 15 x 25 ft. Siding on the building was board and batten. A collapsed shed-roof addition was on the south side.

Structure No. 37 - a collapsed, wood frame structure with only a board floor remaining. The floor on the west side is above ground level and is supported by vertical posts. Siding on a collapsed wall is corrugated tin sheeting. The building measured approximately 20 x 30 ft. Rock walls approximately 30 and 40 ft long on the north side of the structure appear to have formed a driveway.

Structure No. 38 - was the home of Frank Tyro who served as Coolidge's postmaster for the 10 years (from 1922 to 1932) the post office was in operation. The 1 1/2-story, wood frame structure was sided with board and batten. The gable roof was covered with tar paper and tin sheeting on the north side and corrugated tin on the south side. A hipped roof is at the rear. The foundation is of stone and the house measures 24 ft 5 in x 26 ft 5 in. A shed-roof, open porch is located at the front (west side) of the building. The porch roof is supported by four posts and a railing encircles the raised stoop. Another open porch is on the south side which also has a shed roof and a board stoop. Doors are at the front and south side while windows were on all sides, including a diamond-shaped window opening on the front gable.

Structure No. 39 - a collapsed, wood frame structure at the rear of the Tyro home. The

board floor remains and half pole siding can be seen on the eastern collapsed wall. The structure rested on a stone foundation.

Structure No. 40 - a gable roof, wood frame sauna with board and batten siding and roofing. The structure has a double wall with a one-foot space between them which was filled with sawdust for insulation. The door is on the north. There are no windows and no foundation. There is a square, wood board vent pipe on the east roof slope and a metal stove pipe on the west roof slope. A stove is inside with heating rocks on top of it. The sauna measures 12 ft 3 in x 14 ft 3 in.

Structure No. 41 - may have been the Ripley home. The frame building has partially collapsed with only sections of the stud walls and the east wall still standing. The roof has collapsed onto the board floor. Vertical board skirting is on the north side of the raised floor while horizontal skirting is on the west side. There does not appear to be a foundation. Tarpaper was used on the other walls. A shed-roof addition at the rear is intact and has rolled asphalt roofing. Door openings are on the south and west sides. Windows were fixed light paneless and 2-fixed light paneless with screens. The house measured 25 x 30 ft.

Structure No. 42 - a toppled, gable roof, wood frame privy with board and batten siding which measured 4 x 4 ft.

Structure No. 43 - a toppled, gable roof, wood frame privy with vertical board siding measuring 4 x 4 ft.

Structure No. 44 - may have been the home of William R. Allen. The 1 1/2-story, gable-roof log structure rests on a stone foundation. The board roof is covered with rolled asphalt roofing. Logs are sawed at the ends and tapered. There is no notching and the corners are hidden by vertical boards which form the corners. The lodgepole pine logs were not peeled. Cement and sand daubing and sawed small board chinking were used. Horizontal boards cover the west gable end. A sliding sash window is on the west side and a gable end window opening is on the west end. A shed-roof, frame addition with board and batten siding is at the rear of the house. The addition has a large window opening facing east with a door at the south. A small collapsed porch was located at the front door which was at the southeast corner. The house measures 16 ft 4 in x 30 ft. A 60 ft-long stone wall east of the house runs between it and Structure No. 47.

Structure No. 45 - a partially collapsed, wood frame structure with no foundation. It once had a gable roof and there is evidence of a door opening on the south side. Both the floor and the siding consist of boards. The 12 x 17 ft building was probably a small shop or tool shed.

Structure No. 46 - a wood frame, 2-seat privy. Vertical boards were used. The roof is missing.

Structure No. 47 - a collapsed, wood frame structure which had a gable roof. Board and batten siding can be seen at the gable ends and the raised board floor is still in place. The chimney was centrally placed on the crest of the roof. A shed-roof addition on the east has also collapsed. It was of wood frame with vertical board siding construction. A small bin is located on the south side of the addition with an opening into the shed. The house once measured approximately 18 x 30 ft.

Structure No. 48 - a 6 x 6 ft, gable roof, wood frame, shed behind Structure No. 47.

Structure No. 49 - a collapsed, wood frame privy with a board roof.

Structure No. 50 - a totally collapsed wood frame structure which was approximately 30 x 45 ft.

Structure No. 51 - a completely collapsed wood frame structure which measured approximately 15 x 20 ft.

Structure No. 52 - A gable roof, log house measuring 16 ft 6 in x 23 ft. There is no foundation and the board roof has partially collapsed. Small pole chinking with cement and sand daubing were used between the logs. The logs are sawed on the end by are not notched. The corners of the building have been boxed in with sawed boards. Two window openings are on the east, one is on the west and one is on the north side. The door was on the south side. The north gable end has board and batten siding. A low wood board fence is located on the north side about 3 ft from the log wall. A small wood frame shed addition is attached to the rear of the cabin.

Structure No. 53 - a partially collapsed wood frame structure adjacent to structure No. 52. There is no foundation. The door and window openings are on the east. The roof has totally collapsed but the board floor remains. The 12 x 15 ft building appears to have been a small shop or tool shed.

Structure No. 54 - a collapsed, wood frame structure. There is no foundation but parts of the board floor remain and a section of stairs can be found in the rubble. The structure was probably a residence and was approximately 25 x 35 ft.

Structure No. 55 - a collapsed, wood frame structure. Only the board floor remains intact. The approximately 25 x 30 ft structure was most likely a residence.

Structure No. 56 - a collapsed, wood frame privy.

Structure No. 57 - a wood frame, 6 x 9 ft shed with a partial stone foundation on the south side. The siding is vertical board and the floor is boards. Two doors and a window opening are on the south side.

Structure No. 58 - a collapsed gable roof, wood frame structure. The approximately 15 x 25 ft building was probably a residence. The north wall is still standing and shows that the building had a gable roof. Board and batten siding was used and the raised wood floor rests on a stone foundation.

Structure No. 59 - a collapsed, wood frame privy.

Structure No. 60 - a gable roof, partially collapsed, wood frame structure. The siding was board and batten. A raised stoop and stairs at the front door is at the west side. A shed roof addition is located on the east side. There is no foundation under the approximately 25 x 30 ft.

Structure No. 61 - a collapsed, wood frame privy.

Structure No. 62 - a gable roof log cabin. There is no foundation. The roof is boards over log purlins and the house logs are saddle notched lodgepole pines, the diameter of which averaged 8 in. The house logs are saddle-notched. Window openings are on the east, north and west sides. The door is located on the south and the floor is of boards. The chimney hole is on the east slope of the roof. Small pole chinking was used and daubing

was made of cement and gravel. There is a collapsed, gable roof, frame addition on the south side. The addition has a stone foundation. The dimensions of the cabin are 26 ft 3 in x 32 ft 8 in.

Structure No. 63 - a partially collapsed, wood frame residence. The house once had a gable roof which has collapsed. Window openings are on the east and north sides, plus three windows and a door are on the west side. Siding is board and batten. The wooden floor is raised off the ground and covers an area of 13 x 22 ft.

Structure No. 64 - a partially collapsed, wood frame residence which had a gable roof which has collapsed. The front door opening is on the east side and a side door and two window openings are on the collapsed west wall. Board and batten siding was used and there was no foundation for the 13 x 22 ft building.

Structure No. 65 - a collapsed, wood frame privy.

Structure No. 66 - a collapsed, wood frame residence with only a raised floor still intact. A frame addition on the east side has also collapsed. A collapsed root cellar is at the rear of the house. The house once measured approximately 20 x 25 ft.

Structure No. 67 - a partially collapsed, wood frame house. There is a raised wood board floor but no foundation. Only the east wall and part of the north wall remain standing. Board and batten siding was used. The roof appears to have been a gable type. The house is divided into two sections. A shed roof addition is on the east side.

Structure No. 68 - a partially collapsed, wood frame privy with a gable roof.

Structure No. 69 - a collapsed, wood frame, 2-seat privy.

Structure No. 70 - a wood frame, partially collapsed privy. The structure is divided into two sections with two seats on each side.

Structure No. 71 - the collapsed remains of a somewhat larger (approximately 40 x 50 ft), frame structure on a stone foundation which may have been the school for Coolidge. The south wall and part of the west wall are all that remain standing. An entry-way porch is at the south end.

Structure No. 72 - a partially collapsed, L-shaped, wood frame residence. Most of the board and batten siding appears to have been removed and there is no foundation. The south wall and part of the east wall still stands. The roof was a gable type. A collapsed addition was attached to the east side. The house covers an area of approximately 25 x 30 ft.

Structure No. 73 - a toppled, wood frame privy with a gable roof.

Structure No. 74 - a wood frame house with a rock foundation. The roof (which was probably a gable type) has collapsed and most of the board and batten siding has been removed. Two window openings and a door are on the west side. A wood porch is also located on the east side. A door on the east side leads to a shed roof addition and a second wood frame shed roof addition is attached to the first addition. The interior is divided into two rooms at the south end. The house was approximately 25 x 30 ft in size. A 30 ft long stone wall is at the front of the residence.

Structure No. 75 - a totally collapsed wood frame structure. There was no foundation and

only a board floor remains. The structure was approximately 15 x 20 ft in size.
Structure No. 76 - a collapsed, wood frame, gable roof privy.

Structure No. 77 - a collapsed, wood frame residence which was about 20 x 25 ft in size. The board floor is raised off the ground and no foundation was visible.

Structure No. 78 - a collapsed, wood frame, 2-seat privy.

Structure No. 79 - a collapsed, wood frame privy.

Structure No. 80 - a partially collapsed log cabin measuring 16 ft 4 in x 30 ft. The roof has collapsed and its shape is unknown although segments of it show that rolled asphalt was used to cover it. The walls are 8 lodgepole pine logs high and average 9 in in diameter. The logs are tapered at the ends and the corners are enclosed by vertical boards. Bark chinking is used. The door is on the north side and a window opening is on the west side. There is no foundation.

Structure No. 81 - a partially collapsed log cabin measuring 23 ft x 32 ft 8 in. The walls were 12 logs high, saddle notched and were made from lodgepole pines. Cement and sand daubing was used between the logs which had sawed ends. The roof has collapsed and there is no visible foundation. A partially collapsed, wood frame, shed addition is at the north end of the cabin.

Structure No. 82 - a 6 x 9 ft board pen or remains of a small shed at the rear of structure No. 81.

Structure No. 83 - a 6 x 6 ft privy made of small logs with sand and cement daubing and slab chinking. The corners are crudely notched with irregular ends. The privy has a shed roof.

Structure No. 84 - a partially collapsed, wood frame structure which measured approximately 10 x 20 ft. There was no foundation or roof.

Structure No. 85 - a collapsed, wood frame structure, approximately 20 x 30 ft in size.

Structure No. 86 - a collapsed, wood frame structure with only the west wall still standing. The wall has two window openings and a wooden shelf on the interior side of the wall. The building was once approximately 13 x 50 ft in size. The board floor has intermittent vertical rebar which probably supported heavy machinery. A metal pipe and wood housing at the south side may have been a pump station. Cinders in the area might indicate the structure was used as a blacksmith shop.

Structure No. 87 - an ore bin measuring 6 x 8 ft. and constructed of wood beams and boards. The bin appears to have toppled over and may have originally been located further up the tailings pile.

Structure No. 88 - the collapsed remnants of a structure built of wood beams. A concrete headgate-type feature is inside the ruins. The structure measures approximately 12 x 15 ft and appears to have once been a pump station.

Structure No.89 - a small (4 x 6 ft) gable roof pump house with board and batten siding.

Structure No. 90 - a collapsed, wood frame structure adjacent to the railroad bed just southeast of the lower mine adit (structure No. 91). The debris of the structure is 60 ft

long and 25 ft wide with sections of metal pipe in the ruins. The structure may have been a pump station for watering the railroad's steam locomotives.

Structure No. 91 - the lower adit portal made of wood timbers with wood doors.

Structure No. 92 - a gable roof, wood frame, 2-seat privy with board and batten siding.

Structure No. 93 - a small (4 x 6 ft) tool shed. The wood frame shack had a shed roof and is sided with boards covered with tar paper.

Structure No. 94 - a small wood frame shack which is on two wood beam skids. The 6 x 10 ft structure's walls are made of tar paper over horizontal boards and the boards forming the gable roof extend over the door and board stoop which is attached to the skid beams.

Structure No. 95 - a gable roof, wood frame, 4 x 6 ft warming shack (or "dog house" in miner's slang). The siding is board and batten. There is only a door on the east side and no windows. A chimney hole is on the south slope of the roof. Benches for the miners to sit on are inside the shack.

Structure No. 96 - an ore bin made of wood beams, poles and boards. Two chutes are on the east side and the collapsed ruins of the tramway to the upper camp extend up the hillside from the rear (west side) of the bin. The structure is 15 x 15 ft in size.

Structure No. 97 - the remains of a flume, adjacent to the east side of the railroad bed which runs from the top of the tailings to the mill. The remnants of the flume extend for 1400 ft. Sections of the flume, as well as the pole, board and lumber trestle supporting it, still stand. The flume is from 6 to 10 ft above the ground.

Structure No. 98 - the Elkhorn mill. About one-half of the original structure remains and covers an area of 100 x 250 ft. The original complete mill once extended an additional 150 ft down the hillside and covered an area of approximately two acres. Built in three years, from 1919 to 1922 at a cost of $900,000, the mill was originally in five sections. The lower two sections have been torn down and only debris and two conveyor housing towers remain. The walls of the mill are of wood frame construction while 15 x 18 in Oregon fir beams were used throughout in the interior construction. Extensive concrete footings and foundations were used to support the structure and the heavy machinery used inside. Large ore bins are located at the upper end of the mill and were filled by the railway ore cars which entered the upper section of the mill along the trestle (structure No. 100) at the southern upper corner and exited along the trestle at the northern upper corner. Numerous large 6/6 and 8/8 double-hung windows are on the north and south sides of the mill while three large openings on the south and two on the north sides probably once held the doors which provided access for the mill's large equipment. The mill was equipped with steam heat, a sprinkler fire protection system and 52 electric motors used to run the mill's crushers, separators, dryers and other equipment used in its oil flotation process.

Structure No. 99 - a wood beam and post platform measuring 15 x 15 ft, which once supported the mill's water tower.

Structure No. 100 - a trestle made of beams, poles and boards. The trestle supported the railway tracks which brought the ore into the upper part of the mill.

Structure No. 101 - the assay lab. The gable roof, wood frame structure has partially collapsed with only the north section still intact. The assay office covered an area ap proximately 15 x 35 ft and had a concrete foundation. The intact north addition has a gable

roof covered with rolled asphalt and thick walls. Novelty siding was used, although most has been removed. The interior floor is concrete. A brick chimney inside the structure was for the furnace used in the assay process. A ground-level opening at the west side was for loading coal into the lab's coal bin. The roof, the south wall and part of the east wall of the lab's main section have collapsed. Fire bricks, ashes and assay cupels are strewn on the slope below the lab.

Structure No. 102 - the collapsed remnant of a well housing.

Structure No. 103 - a section of a trestle which support the railway running to the west of the mill's three boilers and compressor. The trestle is built of wood beams, poles and planks. The trestle runs for 100 ft approximately 10 ft from the ground.

Structure No. 104 - two concrete footings for the mills compressor and boilers. They are 3 ft high and 10 x 12 ft (south) and 10 x 15 ft. (north) in size.

Structure No. 105 - a wood frame, gable roof pump house. The structure has horizontal board walls with a door at the south end and a window opening at the north end. The 10 x 12 ft structure has no foundation.

Structure No. 106 - a gable roof, partially collapsed, wood frame structure measuring approximately 10 x 12 ft. The structure is sided with boards and batten and is raised off the ground on a low wood platform.

Structure No. 107 - a 25 x 75 ft concrete foundation. The area is filled with wood debris and pieces of rusted metal of the structure which once stood on it. The purpose of the structure is unknown.

Structure No. 108 - a partially collapsed, wood frame, garage-like structure with a double door on the west side. The gable roof has collapsed and part of the south wall is gone. One window opening is on the east side. The walls are vertical boards and batten and the 12 x 20 ft structure is raised off the ground by a log crib-work foundation.

Structure No. 109 - a collapsed, 20 x 25 ft wood frame pump house and the remnants of the log-crib supports for the pipe which ran from the pump house to the mill about 400 ft to the southwest. The pump house roof has collapsed and the board and batten walls are partially collapsed. The pump house is adjacent to the headgate (feature No. 1) on the bank of the Elkhorn ditch. Five of the log-cribs and wood debris extend for 200 ft from the pump house to the tailings piles below the mill. The cribs are roughly 10 x 10 ft in size and from 6 to 12 ft high.

Features

Feature No. 1 - a concrete intake on the stream bank for the pump house (Structure No. 109) on the opposite bank. A concrete wall 15 ft long is along the stream bank with a 2 ft 3 in x 2 ft 3 in concrete tank in the middle where the mouth of the intake pipe would have been located. A 10 ft long stone retaining wall extends upstream from the end of the concrete wall.

Feature No. 2 - a collapsed adit opening. The cut into the hillside measures approximately 10 ft wide and 25 ft long and has three wooden fence-like partitions across it.

Feature No. 3 - a section of corduroy road with small logs buried below the road surface to

provide a solid base at muddy sections of the road. The road is a segment of the original wagon road which ran up the Wise River to the mine site.

Feature No. 4 - the remains of a wooden wagon which was 3 ft wide and 12 ft long.

Feature No. 5 - a loading dock consisting of a 12 ft long log retaining wall with two log poles at each end.

Feature No. 6 - a large scatter of trash, consisting of rusted cans and pieces of glass (see "Artifacts").

Feature No. 7 - is a wood stringer bridge over the Elkhorn Ditch. It is 25 ft long and 12 ft wide. The road surface is formed by 1 x 10 in boards over 4 x 6 in post and beam construction which appears to have been built over an earlier bridge.

Feature No. 8 - a 13 ft long, 2 ft wide wood raised platform resting on wood beams. Leaning against it is a 6 ft beam with a 2 x 2 ft platform attached to the middle. The feature appears to have been a platform for holding the electric transformers of Coolidge's electric system.

Feature No. 9 - a depression, probably for a privy.

Feature No. 10 - a 10 x 15 ft depression with a scatter of rusted cans in the center. It is probable that a structure was built over the top but nothing remains of it.

Feature No. 11 - a small depression (most likely for a privy) with a scatter of rusted tin cans, Great Falls Select beer cans and clear glass fragments.

Feature No. 12 - a possible shaft. The circular pit is 9 ft across and heavy beams which appear similar to timbering used in mine workings can be seen.

Feature No. 13 - is possibly the remains of a wood wagon or sled. It is 3 ft x 11 ft 5 in.

Feature No. 14 - the possible remains of a bridge across Elkhorn Creek. It would have been about 12 ft wide.

Feature No. 15 - a depression, most likely for a privy.

Feature No. 16 - a depression for a privy behind structure No. 66.

Feature No. 17 - a depression 80 ft long and about 6 ft wide which appears to have been an adit opening located behind structures Nos. 67 and 72.

Feature No. 18 - a 30 ft long, 6 ft wide collapsed adit depression. A 13 ft circular depression is at the west end of the adit depression.

Feature No. 19 - a wooden wagon box measuring 3 x 12 ft.

Feature No. 20 - an iron safe. The door has been removed and part of it appears to be laying along side the safe. It is 2 x 3 ft in size.

Feature No. 21 - the railroad bed for the Montana Southern Railway which enters the site from the north, passes through the area at the base of the mill (structure No. 98) and at the base of the mine tailings piles and then curves around the south end of the tailings to the

lower adit entrance, and then north to the upper section of the mill. A 100-ft long section of the ties for the rails are visible at the base of the northeast corner of the tailings. Although the rail line was reported to have been the last narrow-gauge railroad built in the United States, the road bed was constructed to standard-gauge width in order to facilite a planned conversion to standard-gauge at a later date. A few small pieces of the rails are adjacent to the ruins of structure No. 90.

Feature No. 22 - wood debris adjacent to the railroad bed at the section from the top of the tailings to the mill. The debris is the remnant of the snow shed which once covered the railroad.

Feature No. 23 - various pieces of wood and metal debris, wood beams, two circular wood flotation tanks and other wooden pieces of the mill's flotation system.

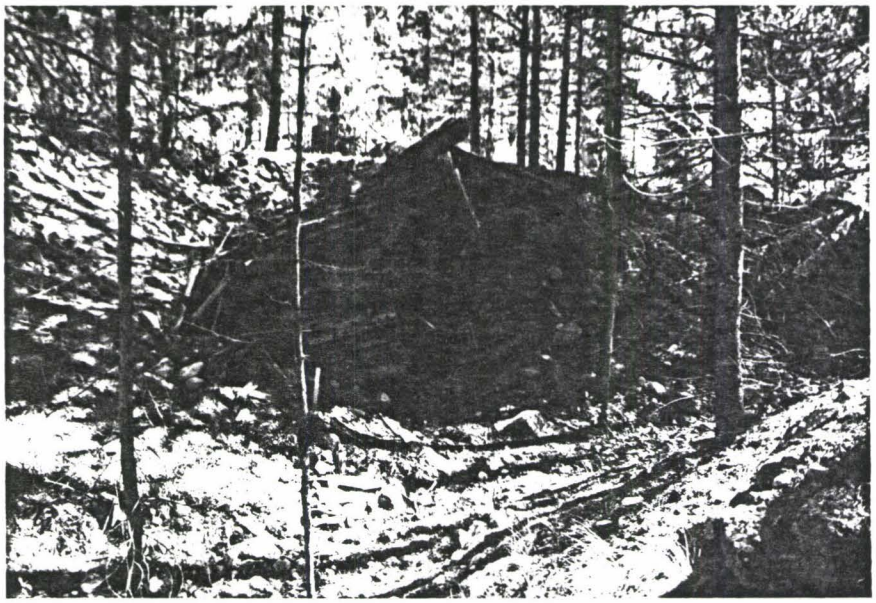
Feature No. 24 - a small (4 x 5 ft), partially collapsed, wood structure on top of the tailing pile below the mill. The structure was probably a housing for a water pipe valve.

Feature No. 25 - a 2 x 3 ft wooden water tank with pipes at the bottom. The tank is partially recessed into the ground. It is located a few feet south of structure No. 108.

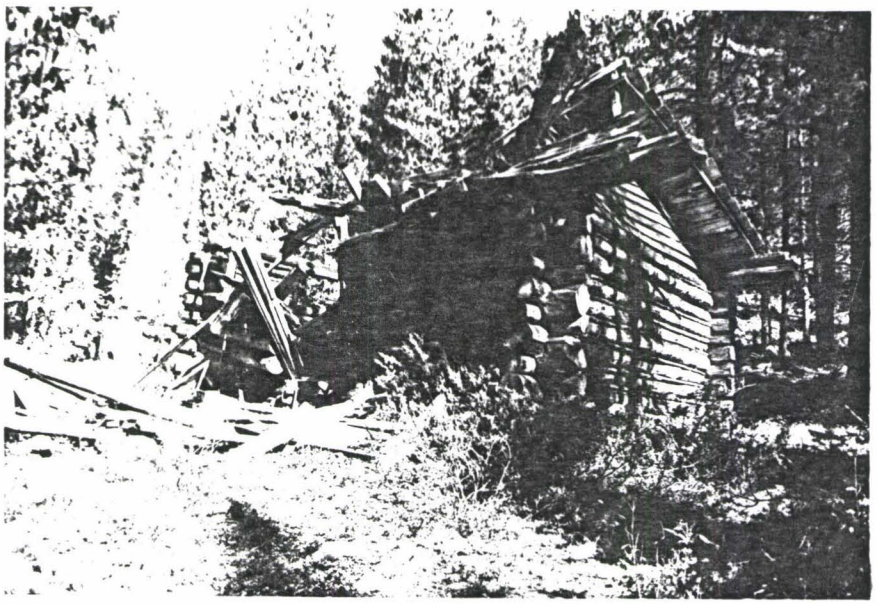
Feature No. 26 - the tailings dump at the south end of the site which consists of waste from the mine which covers an area of approximately 300 x 600 ft.

Feature No. 27 - the tailings dump at the base of the mill. The waste from the mill covers an area of approximately 75 x 150 ft.

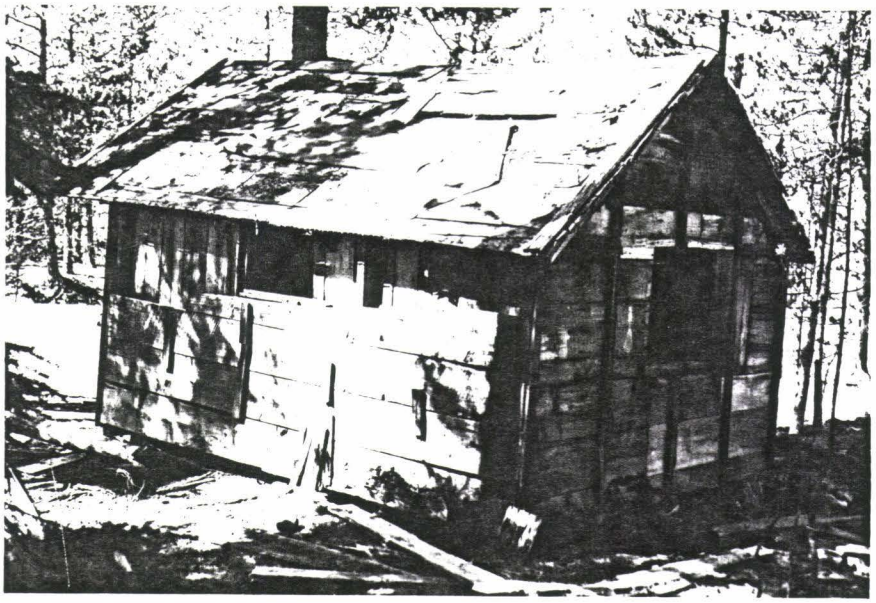
Feature No. 28 - the Elkhorn ditch. This ditch diverts Elkhorn Creek at a point near the bridge which crosses the creek at the north end of Coolidge. The diversion runs north for approximately 2600 ft and then turns west and rejoins Elkhorn Creek. The ditch was apparently constructed to provide a more controlled water supply to the mill.



A dugout ajacent to the road (Structure #1) north of Coolidge (view to SE).



Structure #2 on hillside north of Coolidge (view to N).

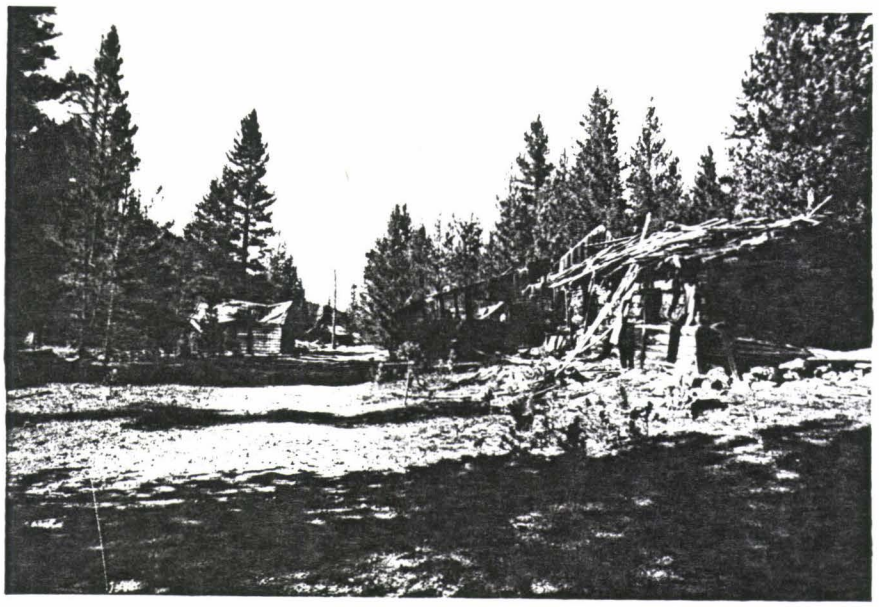


Miner's cabin (structure #5) looking SW.

Structure #8 (view to NW).

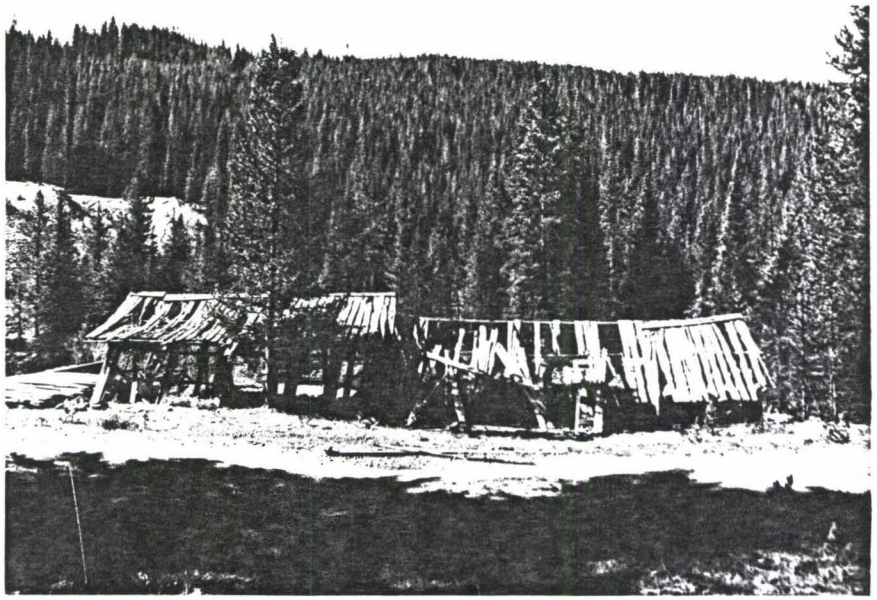
Structure #9 (view to NW).

Small spring house (structure #10) looking SE.



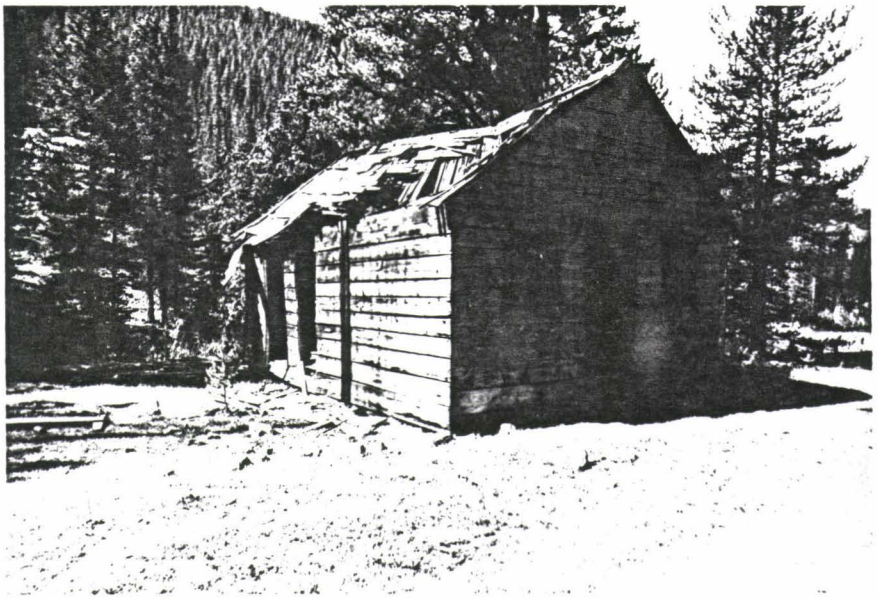
Streetscape of Coolidge looking NW (structure #26 on right).

Streetscape of Coolidge looking SE showing (from left to right) structures #15, #19 and #13.

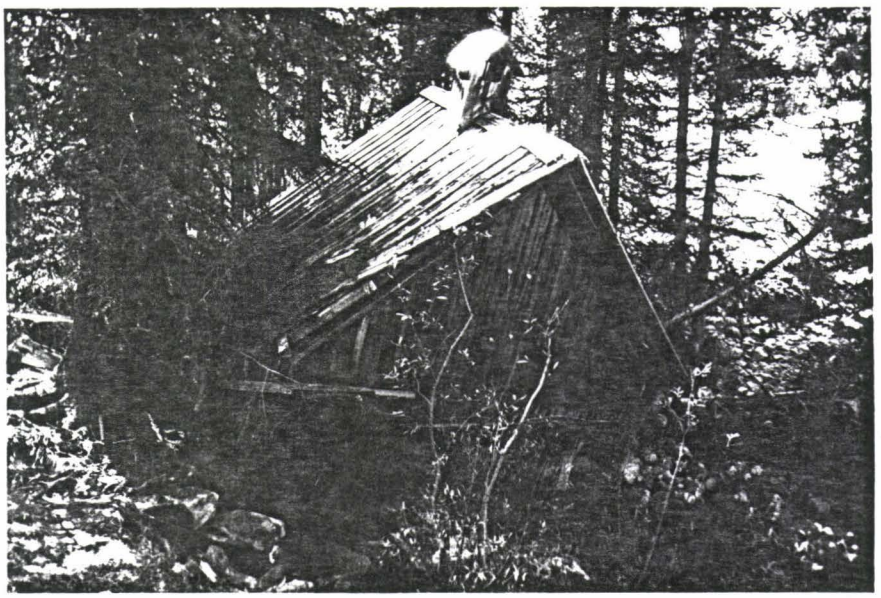


The stables (structure #13) looking W.

Structure #15 (view to NE).

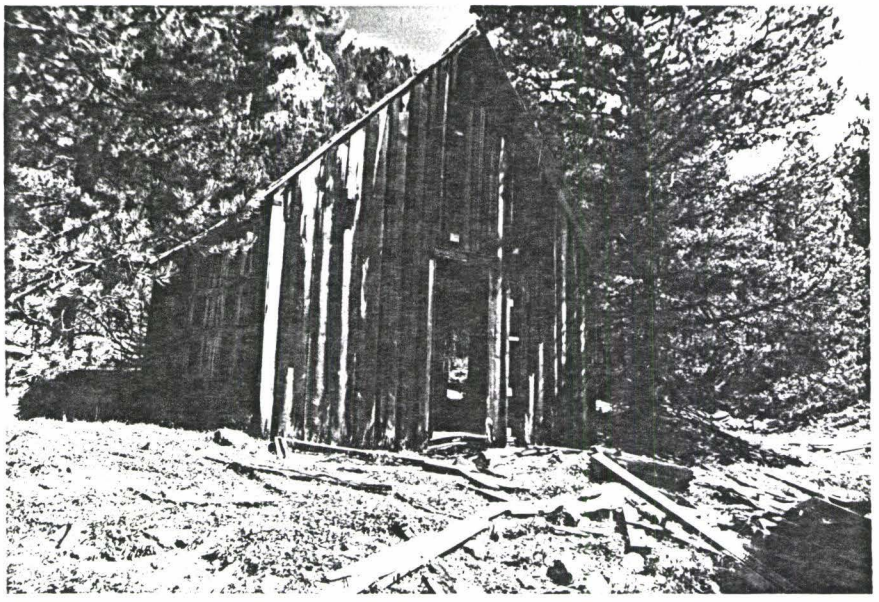


Structure #19 (view to NW).



Pump house (structure #20) looking SW).

Half log, half frame building (structure #26) looking N.



Cabin (structure #27) looking E.

Hotel and company store (structure #34) looking E.

Frank Tyro house (structure #38) looking N.

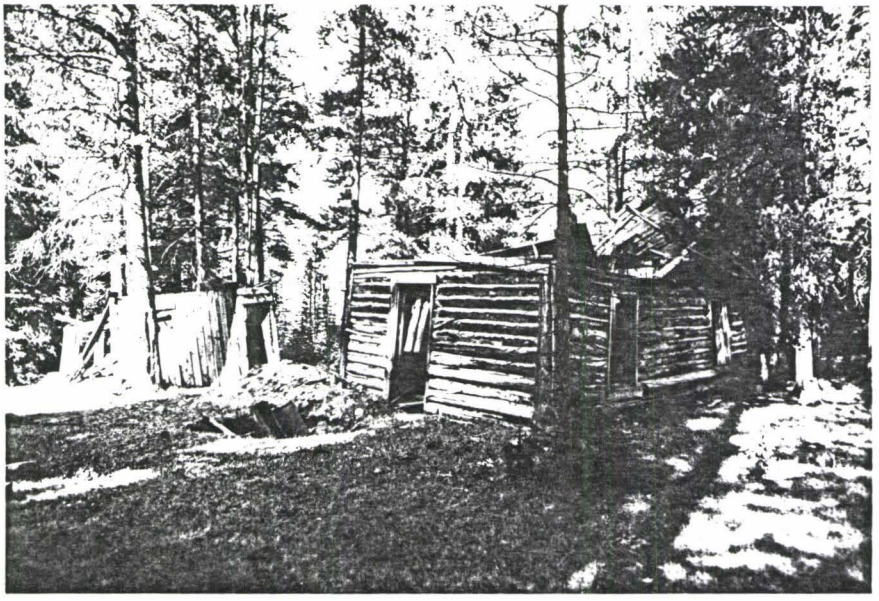
Frank Tyro house (structure #38) looking W.

Sauna in back of the Tyro house (structure #40) looking W.

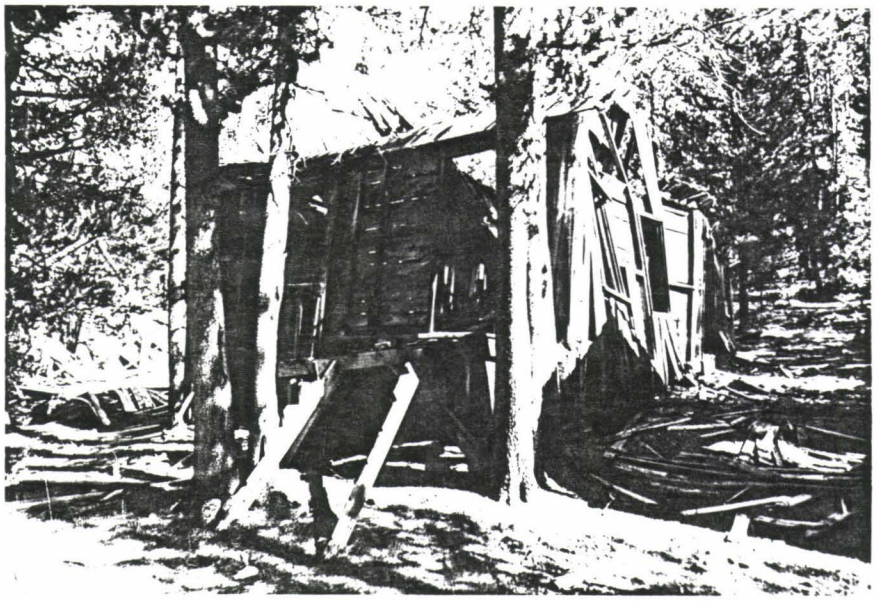
Possible remains of the Elmer Ripley house (structure #41) looking NE.

Log Home (structure #44) looking N.

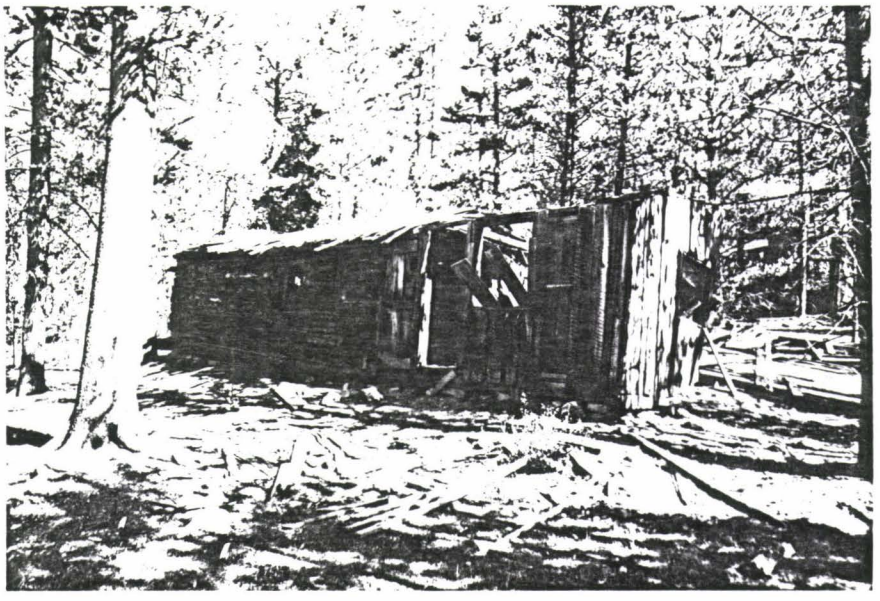
Structure #47 (view to N).



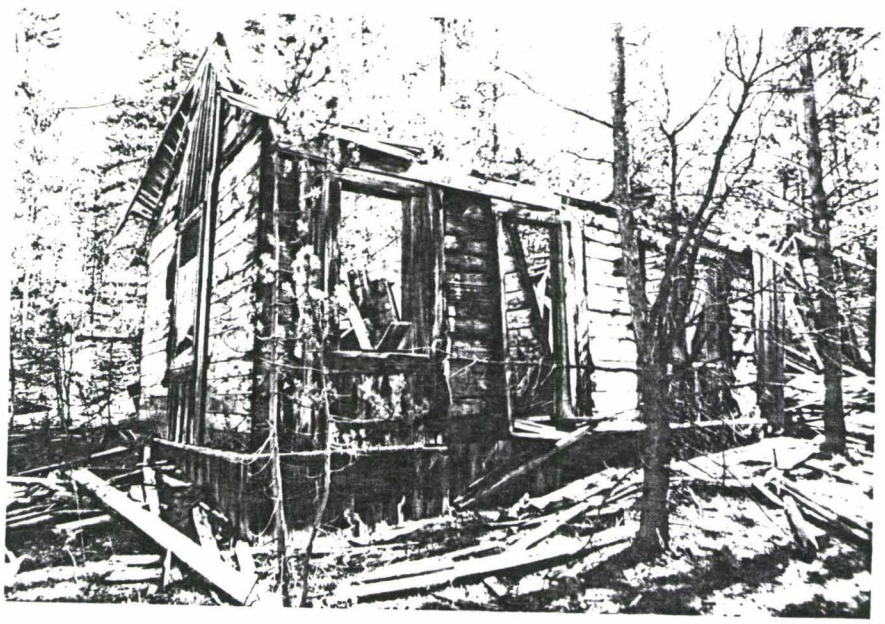
Structure #52 and #53 in left background(view to W).



Structure #61 (view to E).



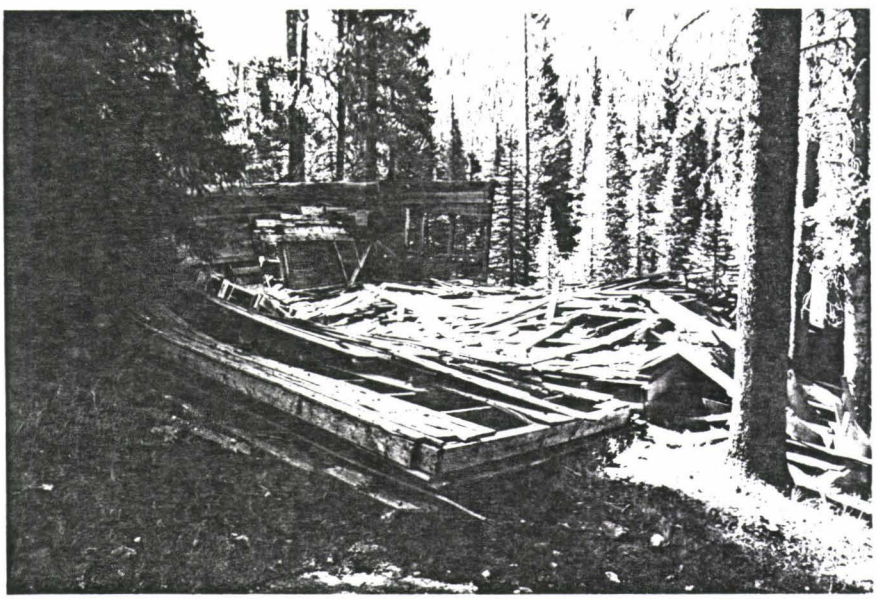
Structure #62 (view to N).



Structure #63 (view to E).

Structure #66 (view to NE).

Structure #67 (view to N).



Remains of the Coolidge school house (strructure #71) looking S.

Structure #72 (view to SW).

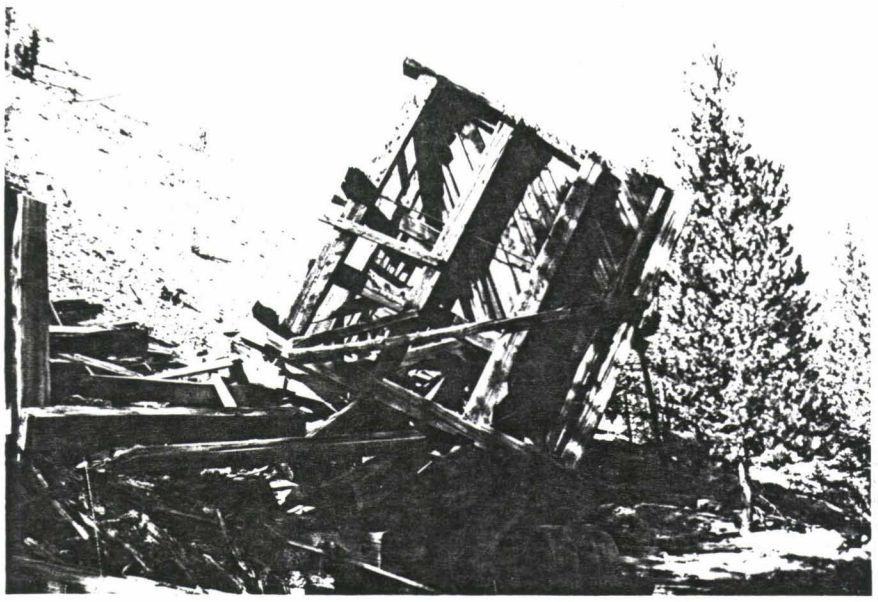
Structure #74 (view to E).

Structure #35 (view to N).

Log cabin (structure #80) looking E.

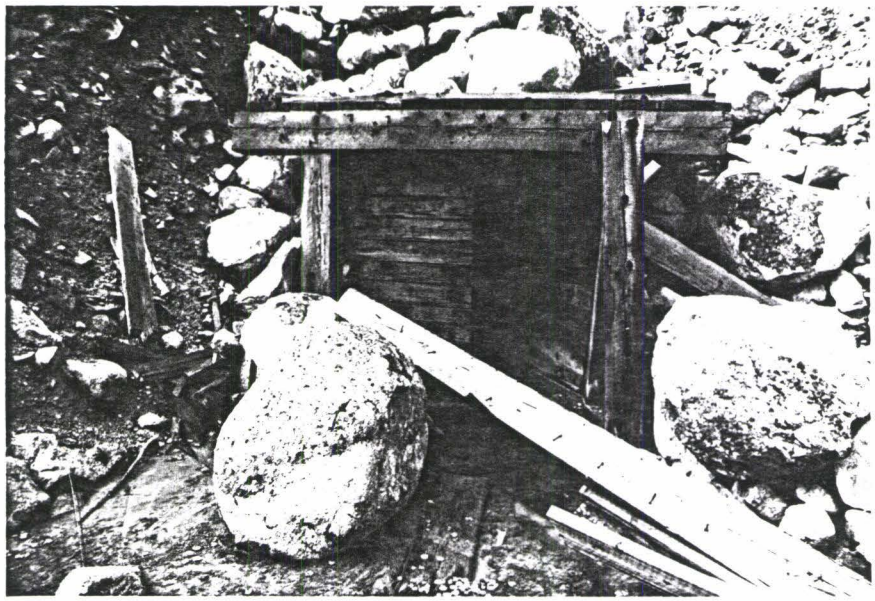
Structure #81 (view to SE).

Shop building (structure #86) looking W.

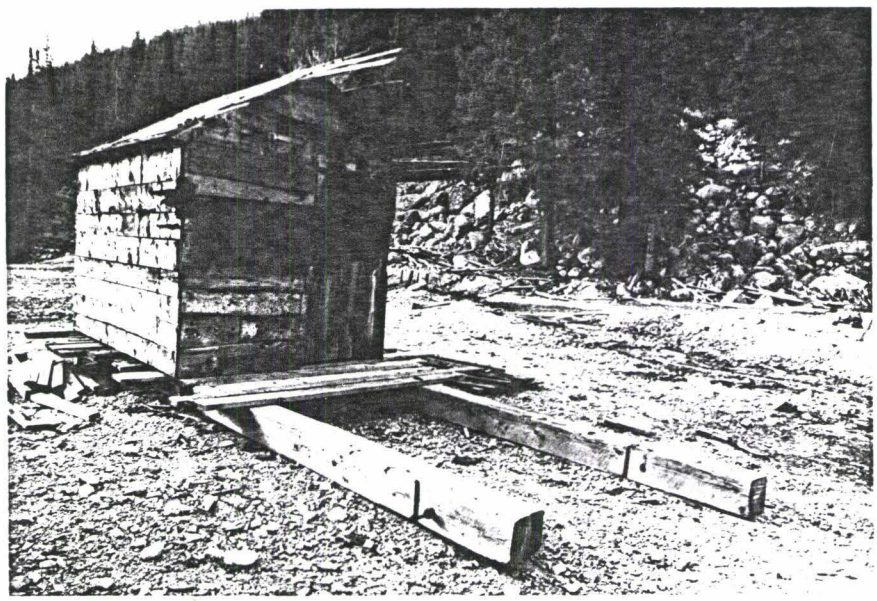


Ore bin at base of tailings (structure #87) looking NW.

View of tailings (right), RR roadbed (left) and Saddleback Mountain (view to S).



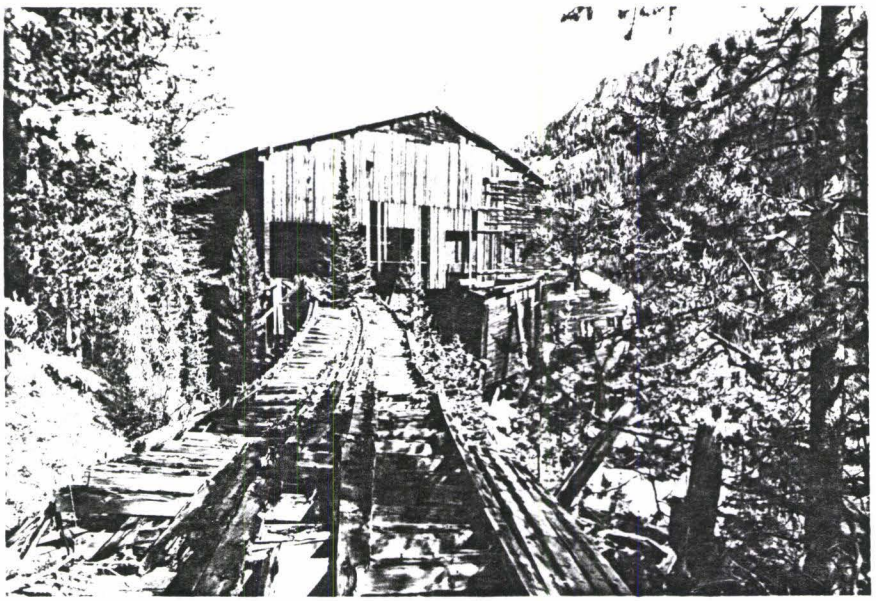
Lower adit portal (structure #91) looking SW.



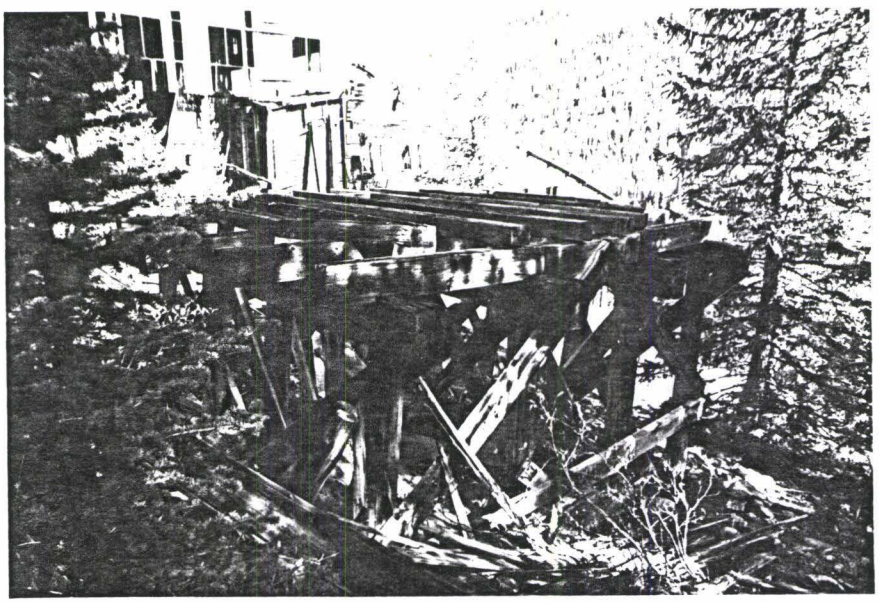
Structure #94 (view to S).

Ore bin (structure #96) at bottom of the tramway to upper camp (view to W).

Portion of flume (structure #97) from lower adit to mill (view to NW).



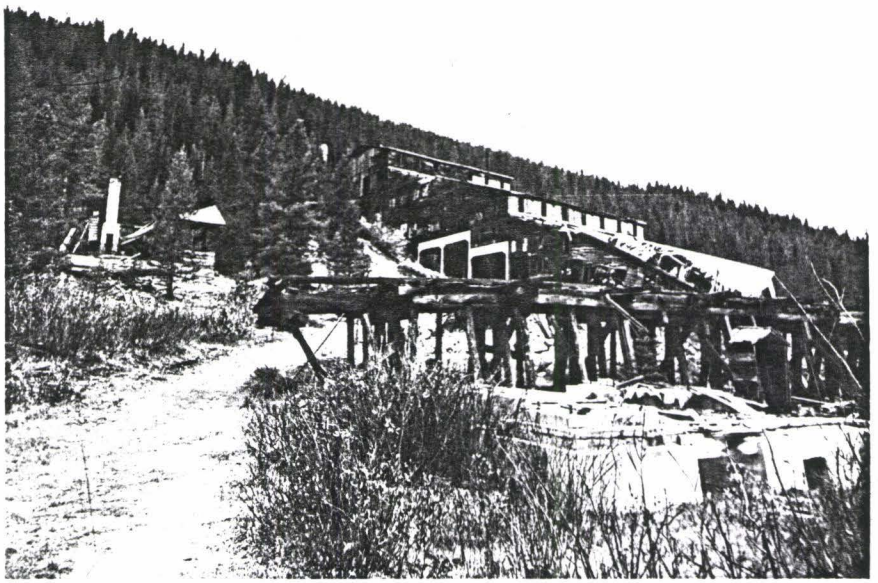
Trestle (structure #100) leading into upper portion of mill (structure #98) looking N.



Platform for water tower (structure #99) looking N.

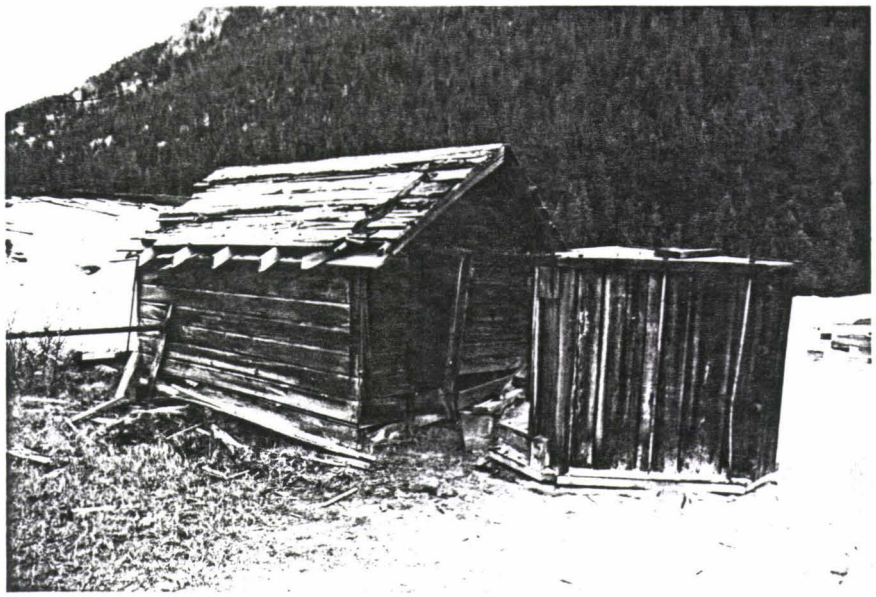
Remains of assay building (structure #101) looking N.

Intact upper half of mill (structure #98) looking W.

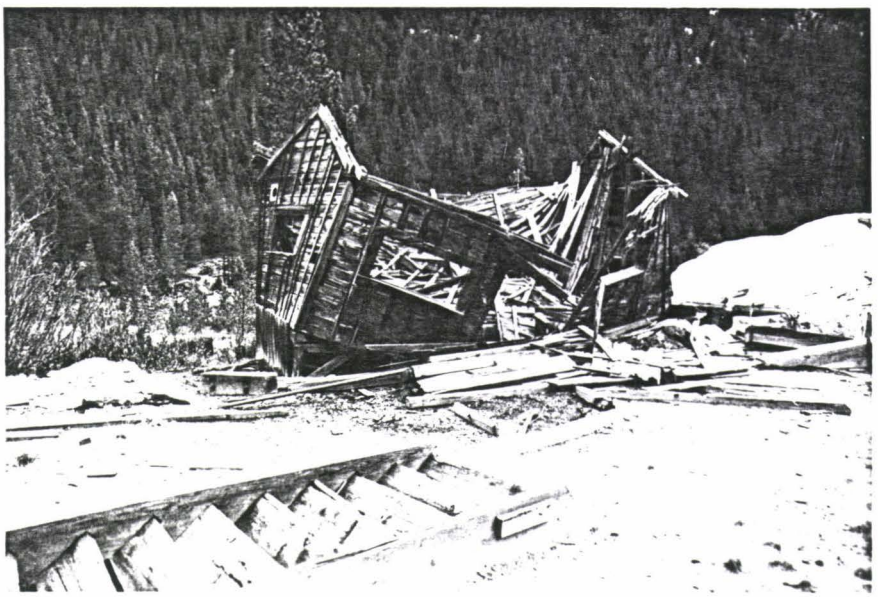


View of concrete footing for boiler (structure #104), lower trestle (structure #103), mill (structure #98), and assay building (structure #101) looking W.

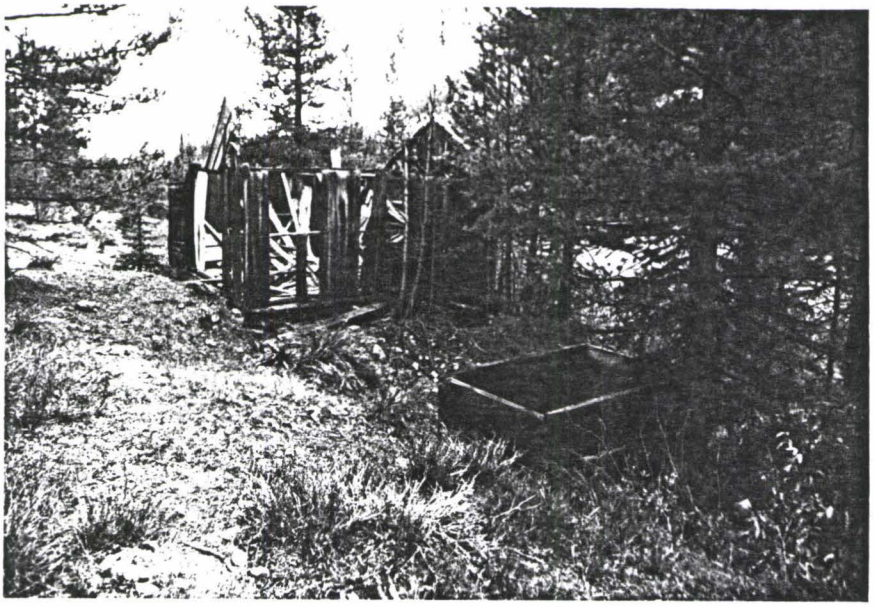
Ruins of lower half of mill (structure #98) and remaining upper half (view to S).



Pump house (structure #105) looking N.

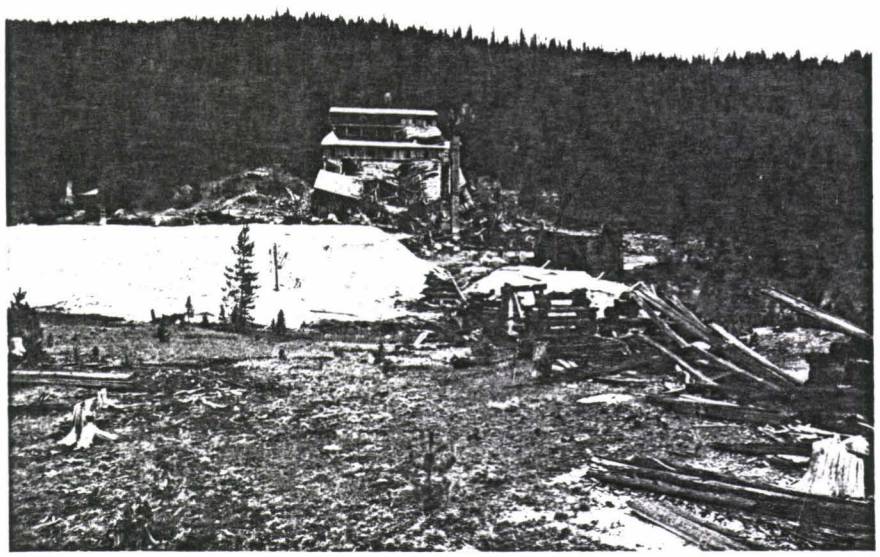


Structure #106 (view to E).



Structure #108 (view to E).

Pump house (structure #109) looking S.



View of mill (structure #98), tailings and crib supports for pipeline from pump house (structure #105) looking W.